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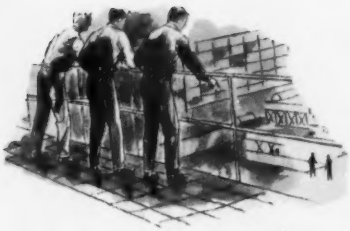
Supervisory Management



Observation Pays Off

It's not what a supervisor *sees* that counts, but what he *notices*.

YOUNG WORKERS SPEAK THEIR MINDS

. . . and they sometimes feel that their supervisors "forget they were young once themselves."

QUALITY: HOW GOOD IS GOOD ENOUGH?

The quality-control department may seem to get in your hair—but it can help you in more ways than one.

AMERICAN MANAGEMENT ASSOCIATION

"This I Believe..."

The "Little" Difference

By L. C. Michelon
Republic Steel Corporation

THE MEASURABLE DIFFERENCE between the common and the uncommon man is not great. The uncommon man thinks a little better, plans a little more, works a little faster, sees the obvious and grasps the complex, and adapts quickly to a changing world—yet has the judgment to conserve what is good in the past as he moves into the future, bolstered by his spiritual values and the social, political, and economic heritage of our society. He strives for excellence, guided by a sense of duty and obligation.

This man needs no key to the future. The doors of opportunity are open, waiting for him to enter. If opportunities do not exist, his ideas—like magic seeds—plant them wherever he goes. His "idea power" packs more force than all the mechanical horsepower we can muster.

(from an address before the Freedom Forum,
Harding College, Searcy, Arkansas)

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OBSERVATION PAYS OFF

By A. Timothy Waad
Engineering Department
E. I. Du Pont de Nemours & Co.

Even the best-run department can be improved by sharp and thorough observation.

AN OLD-FASHIONED WORD for supervisor is overseer—one who inspects, examines, and observes. Though the title may be outdated, the idea holds true: A supervisor spends much of his time looking over the job. Whether he's checking progress against plan on a scheduled operation, or sizing up personnel, or looking for methods improvement, he's making observations on which he will probably base some action. The effectiveness of that action—and his effectiveness as a supervisor—depend to a large extent on his capacity for sharp and thorough observation.

"Just looking" sounds easy, but good observation is an art. To test the truth of this statement, take two or three untrained observers, of different occupations, on a quick tour of your department. At the end, ask each one to write down what he saw. You'll probably find their impressions quite different—and also different from your own. A machinery salesman may note the makes and models of machines, and may already be planning to talk to you about replacements; a boss painter may see the machinery only as a blur, but chances are he'll know whether or not your walls need painting; a personnel man may estimate the number of employees en-

gaged in various tasks, and he may form some impression of their morale. Each person sees the same department, but each pays attention to only a segment.

Sight or observation?

Though we see with our eyes, we observe with our minds. The factors that make the difference are perception and attention.

Sight is like a door; through it passes everything in front of our eyes. *Perception* is what the mind makes of these sights coming through the door; because people differ, their perceptions of the same sights will also differ.* *Attention* represents the opening or closing of the door; and *observation* is the welcoming in through the door of the particular sights that interest us.

Learn to observe

How well we see is determined by the physical condition of the eyes, but how well we observe is determined by interest and training. Helen Keller, without sight or hearing, has learned to observe better than many people with all their senses.

Certainly, anyone with normal physical equipment can train himself to become a better observer.

At Du Pont, an observation-perception training program is offered for supervisors. As a part of the training session, the men go out on a field trip into a section of a plant. They divide themselves into groups —one group looking for safety factors, another for cost-reduction ideas, a third for conditions affecting quality, and so on. Invariably, even in the best-run plants, they are able to spot a number of conditions that could stand improvement.

In one plant, the central safety committee, who had received training, made a tour to check on such matters as condition of fire extinguishers, handling of flammable materials, housekeeping, and condition of tools. Despite the fact that this was considered a "clean" plant, the committee found 69 conditions that needed attention. The tour paid off not only in safety, but in recognition, since the plant received top rating in the next plant audit by the safety and fire inspectors.

Observe for ideas

Spotting problems is not, however, the only goal of observation. An observer looks also for new ideas to improve an operation, a process, or a product. There are few, if any, plants or offices where observation won't yield suggestions for money-saving and money-making improvements.

Ideas can be found off the job as well as on it. Clarence Birdseye got the idea for frozen-foods processing by watching Eskimos quick-freeze their food supply. Dr. Max O. Kra-

* For further discussion of this point see *Why Can't People Get Things Straight?* in SUPERVISORY MANAGEMENT, March, April, and May, 1959.

mer was on an ocean trip when he noticed porpoises moving faster than he thought any creature that size and shape could move in the water. He surmised that they must have some sort of device to reduce surface drag. When he got ashore, Dr. Kramer hurried to get himself a live porpoise for observation. As a result, he has now developed a rubber skin for submarines, patterned on porpoise skin, which is expected to reduce drag on the submarines, and double their speed under water.

"Chance favors the prepared mind," said Louis Pasteur. The history of inventions and discoveries proves this point: Seeing means little, observation everything. Few people could tell you the names of the men who first happened to see the action of penicillin in destroying a colony of bacteria. But almost everyone has heard of Sir Alexander Fleming, who *observed* this action and knew what to do about it.

In industry as in science, the person who has trained himself to observe will find himself operating more effectively, more safely, and more comfortably than before.

Fortunately, anyone who is interested can learn to become a better observer on the job. Here are eight steps of combined theory and practice that have helped many Du Pont supervisors to improve their ability.

1. Be selective

Any situation can be observed intelligently from many different angles—but not all at once by the same person. It's useless and bewildering to try to take in all the angles. The trick is to concentrate on a subject you want to observe at a particular time, still remaining open to general impressions. A supervisor might look over his department first for safety, a second time for improvement of operations, a third time for training needs, and so on. What he finds in each inspection will help him with the next—and in the end he'll see his whole department more clearly than if he hadn't looked selectively each time.

Both narrow- and comparatively wide-focus observation can be successful, provided the goal is clear. On one field trip, a man concentrated on the use of pallets for materials handling. He came up with seven ideas for improving the use of pallets and palletized material. On the same trip, a team of four was asked to look for causes of congestion in the department. Their recommendation for a master plan of allocating space not only relieved the crowding, but also led to real economies in the use of heavy equipment.

2. Know what to look for

The more a supervisor knows about his job and his responsibilities, the better an observer he will be. This means technical know-how if the job requires it—*plus* acceptance of supervisory responsibilities.

What does management in your

THE UNRELIABLE EYE
Your HOUSE as seen by...
...YOURSELF

THE TAX ASSESSOR

...YOUR FIRE-INSURANCE MAN

...THE BUILDER

...YOUR MORTGAGE CO.

company expect of you: Production? Safety? Morale? Cost control? Quality? The better you understand your job, the better you can choose what to look for in any given situation.

A seemingly small finding can be tremendously important—if it indicates something wrong in a process or product. In one plant, a scale was only slightly off zero. Because the scale was used to mix a product, the off-zero position spoiled the proportions of the mix. For some products, such as dyes, the consequences of even a slight off-zero position could be expensive.

3. *Practice observing*

The oftener you look with the conscious intention to observe, the more you will see at each fresh trial. Like all skills, observation improves with practice.

You'll get even better results if you check from time to time on the accuracy of your impressions. At Du Pont, a supervisor of an area being observed walks around with the observers. He learns many things he hadn't noticed about his own area of responsibility—and he is also able to correct false impressions or interpretations. On one trip, an observer mentioned that three men were working on a job that should normally have been done by two. The supervisor explained that the third man was a trainee receiving on-the-job instruction.

Don't confine observation to your own job or your own department. Any new experience—like a field trip to another plant or department, or a visit to a new area—offers a chance for exciting new impressions. Needless to say, good observation is also an asset in conducting one's personal affairs. In driving, especially, the habit of noticing the important factors may some day save your life.*

4. *Keep an open mind*

"Keep an open mind" sounds like simple advice; actually it's the most difficult to follow. We are all, without exception, biased to some extent by our own experiences, interests, and desires. We have all developed the ability to see what we want to see and to blot out unwanted impressions. Fortunately for man's survival, we also have interests that urge us to learn more and more about the world.

It might be worth while to examine some of the forces within us that tend to keep our minds either open or closed.

The strongest emotional barrier to information is *resistance to change* —the desire to retain the status quo. Everyone resists change to some extent, and some people are either so fearful or so smug that they can't imagine any change as an improvement. Fear of change blocks recognition of all but the most inescapable facts that might threaten

* An article to be published in SM will discuss good seeing habits for expert driving.

the familiar and accepted situation.

Some desires are ambivalent. The desire to have friends, *to belong to a group*, will increase a person's awareness of anything that will help the group. But at the same time, it may close his eyes to facts that might reflect on, or might be resented by, other members of the group.

The *desire to think well of oneself* also cuts both ways. A situation that can be used for personal advancement will command plenty of attention; at such a time, observation may be keen. But the same feeling may cause a person to shut his eyes to any facts indicating that he's not quite as smart, as able, or as powerful as he would like to believe.

The *need for action* usually spurs observation. Have you ever noticed how fast you can find suitable Christmas presents on Christmas Eve? Or take another example: If a man learned that his company would have to go out of business unless it could reduce its costs, how do you think this would affect his ability to find cost-reduction opportunities?

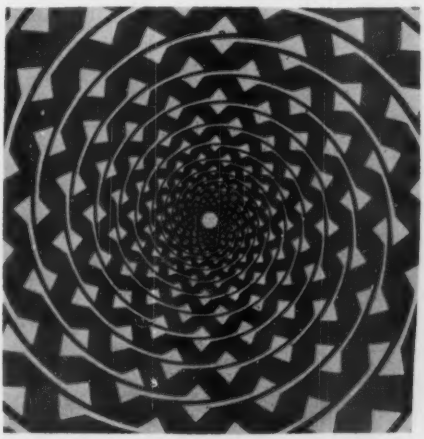
Along with resistance to change, *desire for change* is built into most people's personalities. This is the greatest gate opener of all. Some fortunate people have tremendous curiosity. They are always looking for ways to change things—and they frequently succeed. The person who desires change is usually open-minded—and he can usually recognize the importance of his observations.

One way to increase open-mindedness is not to judge facts in advance. Don't deny the fact, no matter what conclusion it may seem to lead to. Keep your mind open, at least until you have all the facts.

5. Don't be satisfied with general impressions

There's more to most situations than meets the eye. Glance, for example, at the illustration below. It takes more than one look to see the true relationships in this picture.

This drawing is designed to fool you—but a "clean" shop or a careful routine can fool you, too. An example of this occurred in a laboratory where a technician was running titrations—testing the strength of a chemical solution by dropping it into a graduated glass tube to find the smallest amount



Is this a spiral?
Take another look.

needed to bring about a reaction with another substance. He made three tests of the same chemical and got the same answer each time—yet according to the specification sheet, his answer was wrong. He and his foreman took the procedure apart step by step without finding an answer. Then the foreman happened to pick up the graduated glass tube, newly issued from the stockroom, that the technician had used for the readings. Incredible as it may seem, there were two number 27's printed on the scale.

One of our teams walked through a spic-and-span plant area. Everything seemed in order until they looked up and saw a conveyor moving on a monorail system without catch pans, directly over a bin where chemicals were stored. Grease from the rail could drop directly into the bin and contaminate the chemicals.

6. Guard against habit and familiarity

You've probably heard the story about the middle-aged man who bought his wife a size-12 dress for their twenty-fifth wedding anniversary—because that was the size she wore when they were married! In the story, she enjoyed his mistake. In real life, she might wonder whether he'd taken a single good look at her in the past ten years.

Habit and familiarity can blind you. It is well said that you can walk by a leaky pump in your own territory and not see it. Most supervisors spot an emergency fast enough—but little troubles pile up unobserved because the supervisor's general impression of the department, based on years of experience, blots out details. What we think we see—both in people and in things—is often only an assumption based on habit.

There's no easy cure for distortions based on familiarity—but you've won part of the battle when you recognize, and constantly remind yourself, that these distortions exist. Further remedies: As you walk around your department, imagine for the moment that you're somebody else: the plant manager, the

Did you read the three triangles correctly?

safety inspector, the quality-control man, or a visitor. Let yourself wonder about what you see; ask questions as an outsider would. The questions *what, where, when, how,* and (especially) *why* will often help you uncover the real meaning of the situation.

7. Record observations systematically

Most of us are not the Boswell type and don't keep journals of our observations—even though they might make good reading later.

On the job, though, it's important for a supervisor to make notes of what he observes each day—particularly of situations requiring action. The notes should be dated, with space for comment on action taken and on results. The notebook can serve both as a reminder and as a record of progress.

8. Prepare a check list

For some kinds of observing, preparation is desirable. When you travel, for instance, you'll get much more from each place you visit if you learn a little about it beforehand. This is true also of plant visits; when you know what the plant makes, how it produces, how it distributes, who buys the products, you can observe more intelligently and ask better questions.

For some types of observation, a check list is necessary. Consider safety inspection. If you inspect for the amorphous idea, "safety," you may see little or nothing wrong—everything will look "safe." But if you check for litter, obstructions, handling of flammables, condition of fire-fighting equipment, you're likely to find tangible problems that can be corrected. In a survey of emergency-escape routes in one plant, observers found 13 instances of obstruction, poor maintenance, or poor housekeeping, any of which might have blocked employees trying to get out of a dangerous area.

Observe people, too

It's harder to observe people than to observe things—yet the principles of observation already discussed remain about the same. Do you pigeonhole a person at first sight? Try keeping an open mind—the person may change; and, besides, you may have observed him incorrectly in the first place.

Do you hire a person because he "looks good," only to discover a fatal flaw? You might have avoided this if you had refused to be satisfied with a general impression. Being prepared for the interview (even to the extent of having a mental check list) also would have helped.

Too many people try to communicate with words alone. Your next interview, meeting, or training session will be more fruitful if you *observe* the person you're talking to. Respond not only to his words, but to his facial expression or lack of it, and to the subtle clues given by hand movements, foot movements,

and posture. Remember that he's watching you, too. You're not going to get many suggestions from a subordinate on reorganizing a work method, for example, if your expression tells him that you resent every idea he offers or if your restlessness reveals that you're itching to get away.

Who's right?

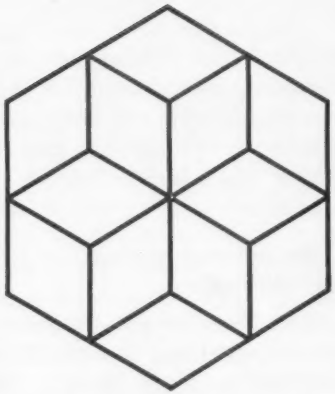
It's important to remember also that few people are objective observers. Many a grievance stems from the fact that the supervisor and his subordinates see a situation differently, and that neither allows for the other's point of view.

In such misunderstandings, both sides are usually sure they're right.

Dr. Hadley Cantril, director of Princeton University's famous Perception Demonstration Center, performed an experiment after a Princeton-Dartmouth football game. The game was rough—so rough that Princeton's star player, Dick Kazmaier, and a Dartmouth player were badly hurt.

One week later Dr. Cantril and a Dartmouth colleague showed a movie of the game to groups of students at Princeton and Dartmouth. Each group was asked to add up the number of times each team broke the rules, and also to comment on the game.

Princeton students "saw" Dartmouth break twice as many rules as the Princeton team. But Dartmouth students saw only half as many violations by their own team.



WHAT DO YOU SEE?

What do you see in this picture? A six-pointed star? Three cubes? Which way are the cubes stacked? If you concentrate, the picture will take on several different appearances—some flat, others three dimensional. But you are perceiving these appearances; what you see is only an arrangement of lines on a piece of paper. Perception equals seeing plus your interpretation of what you see.

Most Princeton students blamed Dartmouth for starting the trouble. Most Dartmouth students thought both teams were equally at fault.

Fifty-five per cent of the Princeton men said that Dartmouth had tried to "get" Kazmaier. But most of the Dartmouth students felt this charge was unjustified.

"It seems clear," Dr. Cantril concluded, "that 'the game' was actually many different games, and that each version of the event . . . was just as 'real' to one person as other versions were to other people."

In industry as in football, the participants' emotions and loyalties determine how they see the game.

Practice, practice, practice

It should be clear by now that nobody ever becomes a perfectly impartial observer. Perhaps, though, it's equally clear that everyone can improve his observation skills.

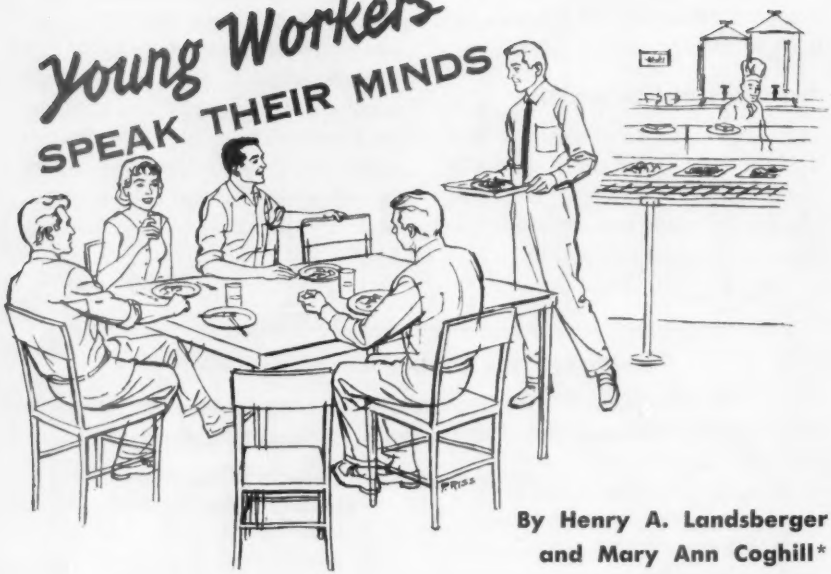
This improvement can't, however, be achieved by reading articles about observation—not even this one. Reading at best will provide some guidance for effective practice. By knowing the pitfalls, a reader can overcome them to the point where he will more often be able to recognize conditions as they actually exist. ♦

Check List for On-the-Job Observation

How do you rate in observation? Use the check list below to rate your performance and find the areas where you need practice.

	Always	Often	Occasionally	Sometimes	Never
Do you observe selectively?					
Do you know what to look for?					
Do you consciously practice observation?					
Do you keep an open mind?					
Do you go beyond the general impression?					
Do you guard against habit and familiarity?					
Do you record observations of situations needing action?					
Do you use check lists when appropriate?					

Young Workers SPEAK THEIR MINDS



By Henry A. Landsberger
and Mary Ann Coghill*

You may be surprised at some of the findings of this study of beginning workers' attitudes.

THE FOREMAN of an assembly department came home one evening feeling baffled and frustrated. He had hired a number of young new workers recently, and they were giving him plenty of trouble. That day, one girl had burst into tears when he criticized her work. And a young man—just out of high school—seemed afraid to do anything without getting the foreman's go-ahead.

"Am I a nursemaid or a foreman?" he complained to his wife. "Give me grown-ups who can stand on their own two feet. I just can't figure these kids out."

Crucial transition

As a supervisor, you'll be dealing with more and more of these young new workers in the years ahead. This year, about 2.1 million employees will enter the workforce. By 1960, the rate will be about 3 million a year—and some of them

*Dr. Landsberger is Assistant Professor, and Miss Coghill is Research Associate, at the New York State School of Industrial and Labor Relations, Cornell University, Ithaca, New York.

may be coming into your department.

You can do a much better job of managing these young workers if you try to understand their needs and problems. A young person starting his first job looks to his supervisor for guidance. The supervisor can respond by helping him over the hurdles (which may seem like mountains), accurately sizing up his capacities and desire for development, and always remembering that the transition from the world of school to the world of work is both critical and difficult.

What do they expect?

What *do* young employees expect from their supervisors? To find out, we asked 88 new workers, with an average age of 19 and work experience of at least a year. What we found out may surprise you, particularly if you have ever assumed—as some managers have—that today's typical young worker dislikes work, has no ambition or loyalty to his company, and works only to get the money for hot-rod cars and rock-'n-roll records.

Our survey showed that a job means a great deal more than money alone to most young workers. Many of them see their first job as the bridge over which they can cross from childhood into the adult world. This is clear from their answers to one question, "How do you feel about the way older people treat you now compared with the way they treated you when you were in high school?"

Of the 86 young employees who answered this question, 70 reported *better* acceptance by adults. Almost half the young men who gave a reason for this change credited it to the fact that they had jobs. The rest felt that improved acceptance was because of personal changes within themselves, the fact that they were older, or the fact that they were out of school.

With the girls it was a significantly different story. Only 15 per cent of the girls who felt they were better accepted by adults thought the job had anything to do with it. The others gave the credit to changes in personal characteristics, or to the fact that they were married, out of school, or "older."

A matter of status

What's important for the supervisor in these figures? First of all, they show that many young workers, particularly men, value their jobs as a means of gaining adult status. The supervisor who doesn't deal with young subordinates on an adult level is robbing them of what for many is their main source of job satisfaction.

Second, the fact that many young workers attribute greater adult acceptance to changes within themselves means that the supervisor should give his fledglings credit for a growing maturity. "I'm more conscientious and earnest

with things I do," said one young employee. This growing sense of adult responsibility can be nurtured by the supervisor—or it can be stunted by cynicism and mishandling.

Third, young men and women differ in their attitudes toward work. As a mark of status, a job means much less to a young woman than to a man; marriage means a great deal more. Many girls, of course, feel that they are working only temporarily, either until they're married or until their husbands are earning enough to support their families. You may often find then, that increased responsibility is not necessarily the key to satisfaction for a young woman employee. A little later we will discuss what *is* important to her morale.

"What do adults forget?"

The next question we asked these young employees was, "What do you think older people tend to forget most when they are in charge of younger workers like you?"

In answering this question, 66 young workers expressed complaints about their supervisors. Just chronic gripes by juvenile malcontents? Definitely not. As you will see in the box describing how this survey was made, it was part of a larger study of 524 high-school graduates. And these 88 young employees were among the more *stable and well-adjusted* members of the total group.

Here are some examples of their positive outlook:

Sixty per cent reported that they are doing the kind of work they want to.

Thirty-five per cent feel they are doing "extremely well" in their careers, and another 53 per cent rated their progress as "good on the whole."

Half of them said they would unreservedly recommend their company as a good place to work.

In rating their supervisors, well over half (60 per cent) checked "Could hardly be better," another 22 per cent checked "Good, but has room for improvement," and 15 per cent gave their supervisors a neutral rating. Only three of the young workers were "Quite dissatisfied."

But despite their general satisfaction with their jobs and their supervisors, these young employees did have gripes. Considered objectively, these complaints can provide helpful clues to the supervisor who wants to improve his approach to younger employees.

The demands of the job

What were they unhappy about? Two things, mainly: the demands of the job, and the way their supervisors treated them personally.

The young men concentrated their complaints on the first area. About a third of them felt the job was too much for them to handle without more help than they were

How This Survey Was Made

This survey of 88 young workers is part of a larger follow-up study of two high-school graduating classes. As junior and senior high-school students, these 524 young people had already completed a questionnaire measuring their attitudes toward adults. Several years later, they were asked to answer the same questions to establish any changes in their attitudes and the reasons for them.

The survey discussed in this article was based on additional questions about work attitudes asked of the 54 young men and 34 young women who had a year or more of experience on a job. Their average age was 19. Sixty-five per cent of them had been out of high school for two years, and the rest for one year. Almost all the young women are typists, stenographers, bookkeepers, or cashiers, while the men are bank or office clerks, machine operators, or mechanics. Most of them had decided what kind of job they wanted while they were still in high school, and those who changed jobs did so only once.

getting from their supervisors. Here's what some of them said:

"They forget to explain new work in detail."

"They forget that we are young and new and do not know everything about our jobs."

"They forget we haven't too much confidence."

Translated into positive expectations, these comments suggest that young men employees want to be taught their job in detail, would like a period of practice, and need more encouragement from their supervisors.

Another third of the young men stressed the other side of the coin: They felt the job didn't give them an opportunity to show what they could do. They put in their bids for more responsibility, more challenge, more respect for their ideas. Here are some of their comments:

"They forget that the young person can probably do more than he is allowed to."

"They forget that you have ideas you think might be better."

"They forget that we are able to think and do for ourselves."

"They forget the responsibility we are capable of accepting."

Do you size them up?

Both of these complaints—about lack of guidance and help on the one hand and about lack of chal-

lenge and responsibility on the other—indicate that many supervisors are not sizing up their young workers accurately. Yet this is a crucial first step in training and developing new workers. Take a look at your own beginners, for instance. Do you have a good idea of the capacities of each of them? Do you know which have the least confidence and need the most encouragement and most careful training? Is your eye out for young workers who may be bored and restless because there's not enough challenge in their jobs?

The supervisor's personal attitude

Not all the young men's complaints were about the job itself. Some centered on the supervisor's personal attitudes—particularly on lack of understanding. The most common complaints were, "They forget that they were young once," or "They forget that we are human beings." A small group (7 per cent) felt that their supervisors didn't make allowances for the fact that "our interests are different"—for example, in their eyes, the job was not as important as the supervisors seemed to think it. However, only a small minority made this statement.

Although young women workers had complaints similar to the men's, there was a vast difference in emphasis. The young women showed far less interest in challenging and responsible jobs: Only one in five complained that her job didn't give her a chance to show what she could do. That they differed sharply from the young men on this is not surprising; as we've already pointed out, many girls are not planning permanent careers.

Understandably, then, they put far more emphasis than the men on the personal treatment they received from their supervisors. Almost half the young women (46 per cent) complained about this. Like the men, they said: "They forget we are human beings," "They forget that they were young once," and "They forget that our interests are different."

Some of the young women explained these charges further: "Sometimes the supervisors feel that a younger worker is just a robot to do things they want, and they don't consider others' feelings or respect their wishes."

"Quite often in a job you find that an older person resents giving instructions to you and makes you feel very unwanted and useless."

Women did match the men in one complaint: About one in three felt that her job demanded more from her than she could deliver with her lack of experience.

"Treat 'em alike"?

The survey establishes some strong guidelines for the supervisor —particularly if he's been baffled by the dissimilar reactions of his

young women and young men employees.

"Treat 'em all alike" may be the easiest way to handle young employees, but it's not the most effective way. One young man may want to be given more responsibility on his job, while the young man or young woman at the next desk may already have too much. A young man on the assembly line may be eager for criticism and challenge from his supervisor, while the young woman working next to him may be upset all day by her boss's tactlessly delivered criticism.

By now you may be wondering, like the foreman in our introduction, whether you wouldn't be happier without the problems of dealing with young new workers. It's true that young workers, as a group, require more attention than older ones. It's also true that younger employees are likelier to blame the foreman if they're dissatisfied, while older workers will probably blame the job itself.

TAKE YOUR CUE FROM THE WORKER

Knowing young workers' attitudes toward their supervisors and their jobs can be a valuable clue to supervising them. Here are some pointers:

Young Workers . . .	The Supervisor . . .
Sometimes see their jobs as a means of gaining adult status.	Should deal with them on an adult level.
Feel a growing sense of maturity.	Should give them increasing responsibility.
May feel they need more help from their supervisors.	Should give clear explanations, opportunity for practice, encouragement.
May want more responsibility, greater challenge, more respect for their ideas.	Should size up their capacities, treat them accordingly.
May feel supervisors don't understand them.	Should try to know them as individuals. Help them get off to a good start.
—If they're women, may be less interested in responsibility.	Should provide less challenge; more personal attention.

But there are also advantages in supervising young workers. They are more malleable than older ones: They haven't developed set attitudes and work habits, and they are more likely to accept training—if you show you're really interested in helping them get a good start.

The best they have to offer

The increasing number of young workers in industry means that it becomes more and more important how effectively you help them develop—whether the final result is an efficient, cooperative employee or a dead weight pulling down the department's productivity and morale. Your understanding of the gripes, expectations, and hopes of fledgling workers will give you a solid basis for getting the best from them that they have to offer.

Here's a brief check list which should give you an idea of how well your approach to supervising young workers is meeting their actual needs:

1. Do you have a stereotyped attitude that throws all young workers into the same bin, marked, "Unambitious, Shiftless, Dislike Their Work, Only Interested in Money"?
2. Do you assume that young men and young women employees think the same way about their jobs and their supervisors?
3. Are you convinced that young workers will always blame you rather than look at themselves objectively?
4. Do you fail to evaluate the individual young worker's capabilities and his interest in realizing them?
5. Do you forget that you, too, were once a fledgling worker—unsure of yourself and anxious for guidance? ♦

Prestige? No—Convenience!

SECRETARIES WOULD RATHER work in an office building that is easy to get to than in an ultramodern "prestige" building. That's one fact uncovered by a recent survey of some 800 secretaries, conducted by *Today's Secretary* to help a New York financier plan a projected office building in New York City. Most of the secretaries said they would sacrifice salary advantages to work in a building easily accessible to transportation. Less than one fourth of the women said they would put a prestige building ahead of pay.

Some of the secretaries' other preferences were offices all on one floor; a partitioned layout, decorated in pastel or muted colors; curtains on the windows; and recreational facilities for coffee breaks and lunch periods.

—*Business Week*

QUALITY:

How Good is Good Enough?

By Frank H. Squires

Knowing what quality control is all about can make your job a lot easier.

EVERY PRODUCTION SUPERVISOR sooner or later comes into contact with quality control. His reactions may vary all the way from appreciation to resignation—but whatever the emotional response, its intensity is frequently increased by confusion about the purpose and nature of quality control, the limits of its responsibility, and the reasoning behind some of its techniques.

Here are some answers to questions about quality control as it affects the supervisor's job.

What is quality control?

The term "quality control" is misleading, because it sounds as though quality were something outside of the product—something that could be separately controlled. On the contrary, quality is the essence of the product—the very characteristic for which the product is manufactured. The essence or quality of a sword, for example, is sharpness; the quality of a clock is accurate timekeeping; the quality of steel is hardness; the quality of a ball bearing is roundness. Now, a sword without a sharp edge has no salable quality; in fact, it isn't a sword. An inaccurate clock, soft steel, square ball bearings—all these are useless and all fail to be the things they were meant to be.

In setting up quality-control procedures for any product, the first step is to determine what characteristics make up its quality. These are the characteristics that must be controlled.

Quality control is the control of *all* factors affecting the important characteristics of the product. Just what this means can be judged from the following partial listing of quality-control activities.

Control of materials

—Confirm that purchase orders for raw material, fabricated parts,

and components correctly specify what is needed to assure the desired quality level in the product.

—Conduct surveys of proposed vendors, and establish a list of those who qualify.

—Inspect purchased material on arrival at the plant—or at the vendor's plant when circumstances demand it.

—Reject defective material, and prepare clear reports on the reasons for rejection.

—Transmit acceptable material to stock.

—Maintain records of these inspection activities, and develop comparative analyses that identify the suppliers of good material and the suppliers of poor material. Bring this information to the attention of the purchasing department.

Control of product

—Inspect machined parts, subassemblies, and assemblies in the fabrication areas; test the finished product, diagnose and trouble-shoot if necessary; and, when satisfactory, transmit to the shipping department. Check adequacy of shipping crates and packing materials.

—Collect inspection and test data; for example, the number defective on specific parts and assemblies. Analyze the data so that one producing group can be compared with another, and the trend toward improvement (or worsening) can be determined for each group by comparison with earlier records.

—Circulate these comparative analyses for the guidance of production supervisors and the information of higher management.

Control of methods

—Check engineering drawings and specifications at all stages of manufacture to look for dimensional interference, irrational tolerance limits, and incomplete or ambiguous specifications. Refer findings to the engineering department.

—Develop inspection procedures; conduct studies of inspection methods and test activities in a constant effort to reduce costs and increase efficiency.

Coordination

—Collect and analyze service or failure data from the field; feed back information and recommendations to the appropriate departments.

—Exercise a coordinating function among the procurement, engineering, production, and sales departments and management. Keep everyone informed on matters affecting the quality of the product.

Who is responsible for quality?

Who is responsible for quality? To answer this question the word "responsible" must be defined. This word has come to have two meanings in common usage. In general, it covers a situation where many people are jointly responsible for the fulfillment of a common en-

deavor. In this sense, everybody on the payroll is responsible for meeting production schedules, and everyone shares the pleasure of success.

The second meaning of the word responsible is "accountable" and this is much more specific. All the people concerned are "responsible" for success, but a single person is held "accountable" for failure. Everyone in production is responsible for good quality, but the quality-control man is held accountable for poor quality—because his assignment is to spot defects before the product gets out the door.

Is quality control inspection?

Inspection is part of quality control—but quality control is much more than the inspection of a completed or partially completed product. The aims are both technical and economic. It is concerned with achieving specified product quality, and with controlling costs by preventing or minimizing the manufacture of defective parts. Preventive techniques aim at controlling the process. Inspection aims at controlling the result. Both are part of quality control.

Is quality control statistics?

The most efficient control on the many activities affecting product quality is undoubtedly the use of statistical techniques. However, both industry and government recognize that there can also be quality control without these techniques.

Whether statistical techniques are used or not, all supervisors can benefit by becoming familiar with the basic principles involved. Statistical quality-control techniques are based upon the concept of inherent variability within the manufacturing process.

An operator and his machine constitute a process. This process will not produce every part exactly alike, no matter how hard the operator tries, nor how carefully the machine is maintained. The quality-control engineer takes this for granted; in fact, he asserts that when it appears that two or more pieces are exactly alike, it is only because the measuring instrument is incapable of detecting the difference.

The concern of quality control is not to eliminate this variation from piece to piece, but to measure it and to keep it at a minimum. This is done by measuring a number of parts and by making an analysis to determine whether the range of variation is "normal"—in other words, if the process is doing the best it can.

If the machine is being operated properly, if all possible adjustments have been made, and the range of variation still remains greater than specifications permit, the quality-control engineer says it's no good pleading with the operator, or threatening him. To increase the yield of good pieces the job must be put on a better machine.

Statistical quality control would

TO SUMMARIZE . . .

1. Quality control's general task is to control all operations that can affect the quality of the product.
2. Statistical techniques may or may not be used. However, product quality can be most scientifically and most economically controlled by statistical techniques. Their use is aways a possibility that should be anticipated by supervisors.
3. Inspection is only a part of quality control. The principal purpose of quality control is to prevent the manufacture of defective products, by control of the raw materials and the process.
4. Quality control properly applied will save money by reducing over-all manufacturing costs. These economies show up better in the long run; it takes time for the material and labor which are saved to accumulate and to appear as a cost reduction.
5. Quality control is not exclusively responsible for product quality. Everyone in production contributes to quality and is responsible in that sense—but quality control is held accountable in the event of failure.

make the same approach to a plating vat, a punch press, or to any repetitive process intended to produce uniform parts.

This makes it sound simple, as indeed it is. Statistical techniques are not the problem; they can be applied by anyone who is willing to use them. But many people in industry find it hard to accept the concept of inherent variability, because it contradicts our habit of thinking in terms of right or wrong, of black or white, disregarding the many shades of gray. These habits are changing under the pressure of scientific discovery, and the increasing use of statistical techniques in manufacturing is a characteristic sign of the change.

When an attempt to apply statistical techniques fails, it is usually because the idea has not been explained, and operating personnel have lacked enthusiasm.

Does quality control reduce cost?

Statistical quality control should reduce over-all production costs, because a scientifically planned approach to a manufacturing problem is less costly than an unscientific plan. But quality control will not necessarily reduce inspection costs.

For example, statistical sampling may be applied in the receiving department, in the belief that it will be cheaper than 100 per cent inspection. It is cheaper, of course—but on the other hand, few receiving

departments use 100 per cent inspection. The usual practice is to spot check a few pieces from large batches—what might be called "informal sampling." The samples demanded by the tables for statistical sampling have been larger—often much larger—than those inspected in spot checks. Thus, the inspection costs may go up instead of down.

Quality-control costs will often rise when a company has penetrated into a highly precise technological field like electronics. If it uses a traditional inspection system, it may find itself unable to meet contract specifications. A carefully planned quality-control program is needed—but it may cost more than the former method of using a handful of inspectors. The situation is similar to that of buying a car that you need to get to your job. You could save money by not buying the car—but without it, you couldn't earn your salary.

The over-all job

Too often, quality control comes to the supervisor's attention only through rejects or through insistence upon higher standards.

But the over-all job of quality control is much broader than this—let's admit—irritating segment. The department that gets in the supervisor's hair by rejecting a defective product is also instrumental in helping him make a better product—by insisting on reliable raw materials, reliable machinery, reliable process. As a by-product, this department also reduces production costs, helping to keep the company competitive.

Most important, quality control safeguards the job of everybody working for the company—by safeguarding the company's existence which, in the long run, depends on seeing that the customers buying the product get the quality they pay for. ♦

How to Get Off the Hook

EVER GET STUCK with a telephone caller who just wouldn't hang up? Here are some ways of ending the call, suggested in a new telephone training manual issued for its staff by the County of Los Angeles Department of Communications:

To end the call when the caller seems reluctant: "Thank you for calling; this completes the information we need; we'll get in touch with you." Or, "I'm sorry, that is all the information we have available." Or, "I'm sorry I was unable to help you. Will you please excuse me now—I have another call?"

To end any conversation, instead of "O.K." . . . "Sure" . . . "Uh-huh," the contact can be ended with: "I'm glad that we could help you, Mr.—." Or, "Thank you for the information, Mrs.—. Good-by."

"Good-by" definitely terminates the call and assures both parties that the call has been completed.

. . . and it takes planning to manage the move.

By John B. McMaster

Chief, Procedures and Reports Section, Atomic Energy Commission Albuquerque Operations Office

IS THERE AN OFFICE MOVE in your future? Moving an office to new quarters can provide a rare opportunity for improving efficiency and boosting employees' morale. All too often, however, an office move makes employees unhappy, sends efficiency tumbling, and eventually forces management to do some expensive rearranging. The reason: poor planning.

What can the office supervisor do to make moving day a success? It's impossible for him to foresee every contingency, of course, but the following planning tips should keep costly mistakes to a minimum.

Arranging the layout

To establish a basic guide for arranging the layout of the new office, list every employee in the department and cross-chart to show each one's working relationship with the others. Don't forget to include any regular work contacts with people outside the department.

Another basic aid is an inventory of the equipment that will go into the new quarters—desks, files, office machines, and so on. Include equipment still to be bought as well as that already on hand. You can visualize various arrangements of the equipment by moving around card-

board cutouts of each item, scaled to match the blueprint of the floor plan —usually ⅛″-to-1′ scale. Make sure that all wall irregularities and heating fixtures are accurately shown on the plan, or your entire layout may be thrown out of kilter.

Don't overlook the problem of privacy. Now is the time to plan walls and partitions to provide protection from annoying distractions. If possible, every person with supervisory duties should have a private office, not only because of his status, but to provide privacy for confidential talks with subordinates. An employee whose job includes creative thinking should also have as much privacy as possible—either a partitioned cubicle of his own or one shared with another employee doing similar work.

Desk placement

Arrange desks to promote the most efficient work flow. To chart the flow of each type of work in the office, try using colored grease pencils on a transparent overlay placed on the floor plan. In most cases, a symmetrical arrangement of standard-size desks is preferable to an irregular layout of desks of different sizes. It's neater looking, and employees won't have to be expert broken-field runners to get from one place to another.

Try to avoid placing desks so that they join and face each other. Some employees may be uncomfortable working face to face with someone else, and others may be tempted to spend too much time in conversation. It's also undesirable to face desks against a wall so that employees feel closed in.

Be sure to consider lighting when you're placing desks. For example, light shouldn't come over the right shoulder of a right-handed employee nor the left shoulder of a left-handed employee, because the writing arm will cast a distracting shadow. A more obvious error, but one that's easy to make when you're working with cutouts on a floor plan, is placing a desk so that light shines directly into the employee's eyes.

Be particularly careful in placing the desks of employees who use typewriters, since they face in one direction at the desk and in another when they type.

There are other important factors to consider when you plan the new layout.

Think ahead

Expansion. Providing extra space in your new layout can save a lot of trouble if you add people to your department later on. So consider the possibilities of future expansion when you're estimating space requirements.

Safety. Check the new layout thoroughly to make sure you've eliminated all hazards, like jutting desk corners and poor lighting. When possible, telephones should be

next to walls, so that there will be no wires to trip over. Wires that must go along the floor should be recessed or laid under carpeting.

Minimize the danger of overloading the floor by placing file cabinets and other heavy equipment along outside walls or over structural cross-members.

Sequence. When you have decided on the layout of the new office, number the equipment on the floor plan according to the sequence in which it's to be moved. Equipment going into the far corners of the new office should be moved first, and that closest to the door should go last. When it's time for the actual move, tag each piece with its number. If more than one room is involved, avoid confusion by using tags of a different color for each room.

Telephones. Don't make a casual estimate of telephone needs. Instead, try to foresee all the telephone and intercommunication equipment that each employee will need to do his job efficiently. Otherwise, you'll be kept busy after the move calling back the telephone men to make changes and new installations.

Electricity. Make sure there are enough outlets—in the right places—for the office machines that require electricity. It's a good idea to consider future requirements, too.

Sight and sound. What an employee sees and hears in an office has a definite effect on his efficiency and morale. Color, for example, can be put to work not only to create pleasant surroundings, but also to use the lighting effectively by reflection.

Noise in the office is both distracting and fatiguing, so the less there is the better. Consider all available methods of cutting down the noise level, including acoustical tile, drapery, carpeting, and partitions.

DON'T MAKE A MOVE . . .
until you're sure that:

- Privacy has been provided where it is necessary.
- Desks have been arranged for efficient flow and lighting.
- Safety hazards have been removed.
- You have enough telephones and electric outlets.
- Noise has been minimized.
- Furniture and equipment have been numbered according to the sequence in which they are to be moved.

Consult your subordinates

Even if you think your layout of the new office is perfect, be sure to show it to each of your subordinates. Consulting them will help to win their acceptance of the move. And just as important, they may think of points you've overlooked and come up with sound suggestions that will make the new office a more efficient and comfortable place in which to work. ♦

IF YOU WERE THE ARBITRATOR...

By Morris Stone
Editorial Director
American Arbitration Association

Time Limit on a Grievance

IN NEGOTIATING a union contract, a chemical-manufacturing company wanted assurance that it wouldn't be harassed by "stale grievances." After some discussion, union and management agreed on a 30-day time limit for filing grievances. If a worker didn't complain formally to his immediate supervisor, in the presence of a member of the grievance committee, "within 30 days of the time he first gained knowledge of the grievance," management would have no obligation.

A few months after the contract was signed, several openings occurred in the chemical-operator classification. One man thought he was qualified for a promotion and spoke to his foreman about it. The foreman turned him down, but discussions on this point continued off and on for several weeks, since the employee hoped to settle for at least an assistant chemical-operator's job.

Finally, two months after the issue first arose, the man confronted his foreman with a member of the grievance committee and filed a formal grievance. "It's too late," said the foreman. "You should have started proceedings within 30 days."

"No it isn't," answered the steward. "You knew within 30 days that this man was dissatisfied with your answer. That kept the matter open. You didn't refuse to talk to him about his request for promotion after the 30 days were up, so you can't refuse to process the grievance."

Eventually, an arbitrator was selected, to decide whether the foreman was correct in refusing to process the grievance through the next step of formal grievance procedure.

How would you decide this case?

_____For the union?

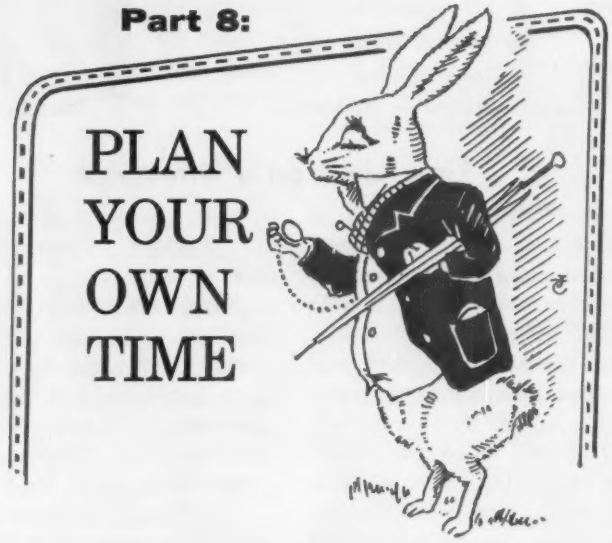
_____For the company?

_____Compromise? If so, how?

The arbitrator's decision is given on page 60.

Part 8:

PLAN YOUR OWN TIME



By Ernest Schleusener

Too busy to make improvements? Here's how you can find the time.

LOOK AHEAD? Plan for the future? Make improvements in my department?—Why, I've barely got time to get out the work for today!" If this is your reaction to suggestions for making improvements in your department, or for cutting costs, or for long-range planning—and for many busy managers it is—then it may reassure you to remember that everyone starts the day with just 24 hours ahead of him. No one has the edge on anyone else.

Your ability to look ahead is one of the qualities for which you were made a manager in the first place. And it can be frustrating to feel that you don't have the opportunity to use it.

Does your job run you?

As you arrive at work each day, there is a certain amount of back-

log waiting for you. As you accomplish some work, more comes in. Several people have probably come to talk to you; you have probably gone to talk to others. You have received and made some phone calls. You may have answered some letters and received some more.

By and large, your backlog is approximately the same by the end of the day as it was in the beginning. Just as much new work has been added as you have been able to complete during the day. This situation is not abnormal or even unusual, but it can be improved when you plan your time. You have to run your job instead of letting it run you.

No one can operate satisfactorily under split-second timing all the time. Only you can determine the point at which planning has reduced your frustrations to a minimum. It's neither necessary nor desirable to try to plan your entire day. All you need, to start with, is *15 minutes a day* for advance planning. Eventually, you can increase it to two hours. When you do, you'll find you're getting better and better results from the time you plan.

Where to find 15 minutes

The first requirement is to search for the 15 minutes in the day when you have the fewest interruptions. It may be the first or the last 15 minutes of your work day, or it may be during a natural lull in your work. Preferably, it should be the same time every day; but if that isn't possible, at least be sure to plan—in advance—to set aside 15 minutes a day.

A shipping supervisor spent his 15 minutes at 8 A.M. But on Friday mornings, the shipping load was heavier, and the time was full of interruptions. So, instead, he took the 15 minutes at 3 o'clock on Friday afternoons, when the requests for shipments had stopped coming in and the rest of the day was free of interruptions.

Gather projects

For the first several weeks, use your planned time to collect your ideas for all the projects that might save time and cut costs.

How you gather projects and which ones you choose will depend on your specific situation and on the way you generally work. You may have had a pet project in mind for years, but felt you didn't have time. This is your chance to get going on it. Some ideas may be so obvious that they pop out at you, while others will take some digging.

You might begin just by sitting back and looking objectively around your department, with an eye out for what needs to be improved.* You may see, for example, that an employee is making several trips to get materials when one trip would

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* See *Observation Pays Off*, starting on page 2 of this issue of SUPERVISORY MANAGEMENT.

be more efficient. Finding the problem in this case suggests the solution—and it wouldn't take more than one or two 15-minute planning sessions to see the problem and decide on some kind of materials-handling equipment to streamline the job.

It may take a little more thought to see the need for other improvements. Some study may show you that you're spending a considerable amount of time authorizing purchase requisitions. Do you have to authorize all of them personally? Or could you delegate requisitions under $25 to your assistant?

Some projects will be a good deal more extensive. To spot bottlenecks, wasted time or materials, rejects, trouble meeting deadlines, or other inefficiencies in itself takes careful analysis; and solving the problem may take time. For example, a work-simplification project or performance studies and improvement might take several months.

Choosing your first projects

The effectiveness of your planning program will depend, to a great extent, on how well you select your projects. From your list of possibilities, choose the four to six projects which, in your opinion, have the greatest cost-reduction potential.

Most people can accomplish more with several projects going than with a single one. A single project sometimes gets bogged down when you have to wait for information or some other delay. While you're waiting, you could be working on other projects.

Choose some short-term projects (those that can be completed in 60 to 90 days), plus some long-term projects.

Begin with some smaller projects that don't involve a great deal of expense. If you get good results with small expenditures, you will be in a better position to deal with the more complicated, expensive items. Furthermore, you will get a feeling of accomplishment from completing a project quickly; the larger, more costly projects usually take longer to be approved.

Before you make your final selections, go over them with your boss. He'll give you the benefit of his broader perspective; besides, he can tell you which projects might be impractical in view of over-all company plans.

At this point, you'll probably find that the time you're spending on planning has crept up to about half an hour a day. You'll need to take this amount of time on your next steps in planning.

Dividing your time

With the work you have done, you are now ready to fill in the Schedule for Improvement on pages 32 and 33. Write a short description of each cost-reduction project at the left, under the word "Project."

You will notice that there are only six project blocks on the form: You'll probably get more done if you carry no more than five or six projects at a time.

Plan to work on one project a day, each once a week. If you have fewer projects than the number of days you work each week, work on your most important project twice a week. Occasionally, a project doesn't lend itself to a once-a-week schedule—say, a plan to study an end-of-month reporting procedure. In that case, be flexible—schedule your project in the most appropriate way.

Steps in Planning Your Time

1. Start with 15 minutes a day.
2. Collect your ideas for projects.
3. From this list, select the four to six projects with the best cost-reduction potential.
4. Get your boss's approval.
5. Decide when to work on each project.
6. Keep records of your progress.

Now list the time of your work period under the day you intend to work on each project. You will notice that the morning has twice as much space allotted as the afternoon. This is done for three main reasons: 1) Many people accomplish more in the morning because they're fresher then. 2) If your planning time gets squeezed out in the morning, you may be able to make it up in the afternoon. 3) People who call or otherwise interrupt your work can be put off until the afternoon; if your planning time were in the afternoon, you would probably have to put up with the interruption.

If, for any reason, you can't work on your project during the allotted time, try to find time for it later in the day. Or work it in the next day.

In a month, you should find yourself spending considerably longer than 30 minutes a day. But there's no need to increase your planning time arbitrarily—let it increase as the needs become clearer.

If you can't get going

If, after several months, you have still not been able to step up your planning time, try keeping track every day of the items that seem to be keeping you from planning. Notice particularly the items that are repeated often. Now select the item that consumes a great deal of time—and study it as a planning project in itself.

You may, for example, find that you are spending a disproportionate amount of time giving orders. Studying this may show you that you should delegate some of your order giving, or improve your instructions, or, perhaps, improve the

SAMPLE S

PROJECT	MONDAY	TUESDAY
Combine order-entry form and shop-order form.	A.M. 10-11	A.M.
	P.M.	P.M.
Study bottleneck at shipping on last day of month.	A.M.	A.M.
	P.M.	P.M.
With inventory high, why do we have so many stock outs?	A.M.	A.M. ~~10-11~~
	P.M.	P.M.
Study Wednesday-Thursday lull.	A.M.	A.M.
	P.M.	P.M.
Set up simplified procedure for putting through rush orders on material in stock.	A.M.	A.M. 10-11
	P.M.	P.M.
	A.M.	A.M.
	P.M.	P.M.

SCHEDULE FOR IMPROVEMENT John Baker

WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
A.M.	A.M.	A.M.	A.M.
P.M.	P.M.	P.M.	P.M.
A.M.	A.M.	A.M. 10 – 11	A.M.
P.M.	P.M.	P.M.	P.M.
A.M.	A.M.	A.M.	A.M.
P.M.	P.M.	P.M.	P.M.
A.M.	A.M.	A.M.	A.M.
P.M. 1 – 2	P.M. 1 – 2	P.M.	P.M.
A.M.	A.M.	A.M.	A.M.
P.M.	P.M.	P.M.	P.M.
A.M.	A.M.	A.M.	A.M.
P.M.	P.M.	P.M.	P.M.

basic training of the work group.

Once you've cut this time down, you can spend more of your time planning for further improvement.

Keeping records

To be effective, your planning time must be well organized. Keep a record of the progress you make on each project. Remember that there's an entire week between the days you work on any one project. A good chronological record will minimize the "get-acquainted time" when you pick up a project a week later.

Some projects lend themselves to built-in record keeping. In a work-simplification project, for instance, you use a chart to see where you can streamline your operation; a glance at this will let you know where you stand at any time.* Even on less formally recorded projects, be sure to keep some sort of progress record from week to week—whether it's jottings in a notebook you keep for the purpose or a check list posted on a bulletin board. And be sure to include exact facts and figures—they're easily forgotten if they're not written down.

Study your own time

Don't get so involved in a project that you spend time on it to the exclusion of other projects. That's why it's a good idea to make the use of your own time a project in itself.

A supervisor in a Cleveland window-frame plant found that he was spending up to four hours a day on the telephone. When he used some time to study the problem, he saved over two hours a day. How? He discovered that most of the calls were either directly from customers, or from the sales department, on a customer's request. The callers asked how their orders were coming and often requested a rush job.

To save time, the supervisor prepared a daily itemized report showing the sequence of orders he was working on and when they would be finished. The report was sent to steady customers and to the sales department. From then on, not only were the people in the sales department able to answer customers' questions themselves, but the customers, knowing just where they stood on deliveries, asked for rush orders much less frequently. Fewer rush orders meant fewer last-minute rearrangements of the work flow.

After several months, the supervisor found that these daily reports were saving him a considerable amount of time formerly devoted to interruptions and rearrangements. He figures that he now saves over $3,000 worth of his own time in this way—not to mention substantial savings of manpower formerly

*See the Simplified Process Charts in SM, July, pages 32-33.

IF YOU HAVE TROUBLE FINDING TIME . . .

- Keep track every day of the items that seem to be keeping you from planning.
- Study your own use of time as a project in itself.
- Change your planning period to a quieter time if you're constantly interrupted.
- If one person tends to interrupt often, ask him to withhold his request until later.
- If a meeting or other unavoidable conflict comes up, skip that day's planning session, and wedge it in later in the week.

used to make frequent changes in the set-up of machines and the arrangement of stock.

The foreman of a screw-machine department found that his men were taking about two hours a day of his time by asking him to check their work before they started a run. When he realized that a high proportion of the work he was checking was unsatisfactory, he revised the procedure. He had the employees do a preliminary check themselves, before they brought the work to him. They weeded out any work that was obviously not meeting specifications. In that way, the foreman saw only work that was ready for his okay. In the next 12 months, he was able to complete seven projects in the time he had saved with the new procedure.

Handling interruptions

If the time you have selected to work on your projects is constantly interrupted for a variety of reasons, perhaps you should change your planning period to a quieter time. If, on the other hand, just one person tends to interrupt often, explain to him what you're doing and ask if he can hold the interruption until a specified time.

Meetings sometimes interrupt a planning period. If so, just skip that day's planning session, and try to wedge in some time on the skipped project later in the week. But don't disrupt your entire schedule. A regular schedule increases your effectiveness in planning.

Coping with snags

As you investigate a certain project, you may find that the saving will not be worth the effort required. If so, don't be discouraged —simply drop the project and start on another that has greater possibilities. Not every idea is guaranteed to pay off—but planning as a whole pays off, and you'll be more than repaid for the total time in-

vested. As you gain practice, you'll be able to determine the potential value of each project earlier in the game.

If a project that you consider worth while is not approved, don't give it up entirely. Let it rest a few months and substitute a new project in the meantime. In a few months, you may have more facts on the first project, which might help to get it re-evaluated and approved. On the other hand, a second look may convince you that the project is not worth while after all.

Stagger the projects

Try not to have all your projects at the same stage. If you stagger them (mixing long-term and short-term projects is one way), you'll have a steady flow of completed projects to hand in to your boss. Besides, the last stages of any project —putting it into effect—are usually the most time consuming; therefore, it's better to be finishing up only one at a time.

As you complete one project, add another one to your list (or use the time to finish one of the other projects), so that you're constantly making improvements in your department. Also substitute a new project when another has been held up for reasons beyond your control.

Planning far ahead

Certain projects should be planned for a definite time of year and can be scheduled well in advance. If you are considering an improvement in your inventory system, plan far enough ahead to complete the project in time for the next inventory taking. If you know that you must plan for extra help at a rush season, make your plans early enough to get the best selection of temporary help. Last-minute rushes tend to be more expensive than well-planned procedures.

Don't let the tail wag the dog

The first six months are the hardest. As planning periods become part of your daily routine, you will find that your unplanned time also tends to become better organized.

Don't become overzealous about planning. Even a busy doctor doesn't schedule every minute of his day far in advance. He needs to leave some time for emergencies and casual contacts. If planning were absolutely air tight, with no flexibility, you might become inaccessible to your work group. If people can't get to see you, they may become discouraged from trying again; and that doesn't help morale. All work must be properly balanced so that you can operate effectively in all your areas of responsibility.

A good average, then, is about two hours a day. This will give you some balance in your schedule. You'll have time for the day-by-day job of managing, and for a flow of improvements that will make your work outstanding.

The more you grow in management, the greater the importance of planning your time. At each successive level of management, you must spend a greater percentage of your time planning ahead. The highest-level managers spend more time on advance planning than on any other activity. For knowledge, experience, and planning are your most effective tools for progress. ♦

This is the eighth in a series of articles on cost reduction. Part 9, coming next month, will discuss cutting costs by scheduling work.

How to See Around Corners

SUPPOSE YOU COULD SNIP off a section of garden hose, poke one end into some inaccessible cranny—a mole hole, for example—and then peer into the other end and see what's going on.

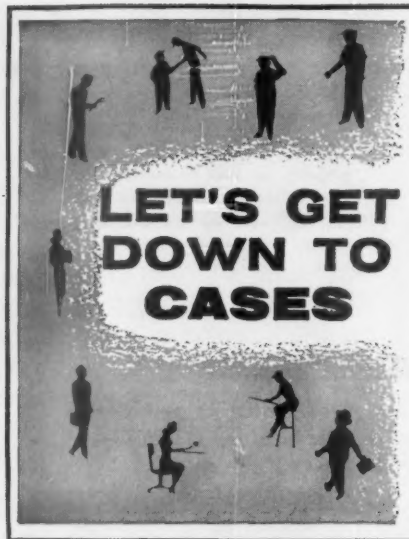
That's the effect produced by a new group of optical devices: slim, flexible glass ropes capable of transmitting light and images around corners and over obstacles. They are beginning to emerge from the laboratory now, according to a recent report in *The Wall Street Journal.*

The glass ropes are actually bundles of hairlike glass threads so fine that it takes as many as 250,000 to make a rope half an inch in diameter. Light entering one end of a bundle of glass fiber flows to the other end. If the fibers are arranged in exactly the same way at both ends, the bundle transmits a clear image consisting of thousands of tiny dots. These image-transmitting bundles can "see" in dark corners; they send light one way to illuminate the area and carry images back in the opposite direction.

Until now, glass ropes have been a lab curiosity used chiefly for stunts; you can gaze into your own ear with one, for instance, or aim a camera with your back on the subject. Currently, however, fiber-optics devices are being tried in a number of more significant tasks.

One is the inspection of hard-to-get-at spots in industrial equipment and products. For example, American Optical Company has designed a device to check welds on the inside of elbow pipes in nuclear reactors. A maker of aircraft engines has asked the company for a fiber-optics instrument to inspect inaccessible sections of jet turbines.

Optical scientists believe that the fiber bundles will also be useful for observing dangerous areas, like rooms in which there is a high level of radioactivity.



Every month, SM presents true stories of tough situations supervisors have faced.

How would you solve these problems? Your answers and the steps you take in arriving at them can be of the utmost value to you.

As you consider each case, you might jot down your questions, your reasoning, your decisions.

Or, discuss the cases with a group of people—fellow supervisors, family, friends. You'll find that each person has his own way of looking at the problem.

What Happened to Herb?

HERB SCHAEFER is a gear-cutter operator at Synchro Machine Tool Company. For the three years he's been with the company, he has performed reliably and conscientiously—close to the top in production, and with very few rejects. Though seemingly unambitious for promotion, he's given the impression of enjoying his job and wanting to do it well.

At least, that's how it used to be until mid-August, when Herb returned from his vacation. Almost immediately, Sam Leonard, his supervisor, noticed a drop in the quality of Herb's work. Inspection reported that many of the gears he was producing came only barely within tolerance. Sam spoke to Herb, who seemed surprised and promised to be more careful.

The following week, Inspection rejected some of Herb's gears. Again, Herb looked puzzled, but he promised to be careful.

But this morning, Sam was really called on the carpet over something Herb had done. One of Synchro's Super-X models had failed its performance test and had to be completely disassembled and reassembled.

Reason for failure: There was a

This case was contributed by Leonard Smith, Executive Director, Training Services, Inc.

defective gear in the model—and Herb had made the gear. "This is costing the company $500 and, even worse, it means disappointing the customer on the delivery date," said Sam's boss.

"I'll see that it never happens again," Sam replied.

Consider these questions—and ask your own:

1. What are the possible causes of this sudden change in Herb's work? (Don't be satisfied with only 2 or 3 possibilities.)
   _____
   _____
2. How would you go about finding out which factor, or combination of factors, is responsible for the drop in quality?
   _____
   _____
3. If you were Sam, how would you approach Herb? _____
   _____
   _____
4. Can Herb alone be held responsible for the machine failure? If not, who else? _____
5. What do you think of Sam's handling of the problem up to now? _____
   _____
   _____

WIN A BOOK!

Send in your solutions to SM's cases—or send your toughest, most interesting case— for publication in SUPERVISORY MANAGEMENT.

The editors of SM will award the author of each published case or solution a copy of Leadership on the Job: Guides to Good Supervision, the American Management Association's handbook for supervisors.

Send your contribution to Let's Get Down To Cases, SUPERVISORY MANAGEMENT, *American Management Association, 1515 Broadway, New York 36, N. Y.*

Letters on this month's case should be postmarked no later than September 30.

Readers Discuss SM Cases

Here are readers' discussions of previous cases.

A copy of *Leadership on the Job*, AMA's handbook for supervisors, has been awarded to each of this month's contributors.

How Fair Is Fair?

(July, page 35)

Case synopsis:

Stan Holtz has a tough disciplinary problem. Jim Riley, one of the lift-truck operators he supervises, had received repeated verbal and written warnings about careless driving. Ignoring the warnings, Jim sped around a corner into a pile of packages last week and broke several clock radios. Stan gave him a three-day layoff and told him he was asking Personnel to transfer him.

Today, Lou Leseur, whose record for careful driving was spotless, knocked down an air-conditioning vent because he failed to lower his lift truck when he passed beneath it. Lou and Stan are close friends.

Both accidents were caused by safety violations, and both resulted in financial loss. The group is waiting to see what Stan will do.

Fair treatment—different penalties

TO THE EDITOR:

Fair treatment does not necessarily mean identical treatment.

For Jim's repeated infractions of a safety regulation, the penalty was proper and fair. Jim was not penalized for the damage; he was disciplined for the violation.

Stan should not impose a severe penalty on Lou to show the group his impartiality. But he shouldn't be overlenient because of their personal friendship. A verbal reminder of the constant need for strict observance of driving rules is enough, because it is a first offense, and Lou's past record has been exemplary.

Stan should not allow his concern for group reaction to influence his decision. He should consider the circumstances of all such cases in the light of company policy on safety violations.

The group is probably aware of the difference in the driving habits of Jim and Lou, and will realize that fair treatment for both men involves different penalties.

—V. DONUS HOULIHAN
Chicago, Illinois

Consider the circumstances

TO THE EDITOR:

Lou should be given one day off without pay. If, like Jim, he had received previous warning, he should be given three days off. If the accident had not resulted in loss of money, he should receive only a written warning. A new man should receive a verbal warning, and more training.

Stan wouldn't need to explain his action to the members of the group, since they would be familiar with the behavior and attitudes of the men they work with. The group would appreciate the impartiality of Stan's decision.

Any foreman should consider the safety rule first and the results of an accident second. In nearly every case, however, the circumstances are different—and discipline should be meted out accordingly.

—CLAYTON E. NELSON
Supervisor, 100-K Power Operation
General Electric Company
Richland, Washington

Gain his loyalty

TO THE EDITOR:

Stan should consider each case individually. Lou deserves punishment—but not as much as Jim, who had received repeated warnings and still showed a careless attitude. Certainly the rest of the group is aware of the differences in the men's attitudes and records and will respect a decision based on them.

However, it seems that Stan's basic problem lies in his relationships with the men. Jim might not be in trouble if Stan had been close enough to him to gain his loyalty and make him aware of what his careless driving meant—for him and for the company.

—W. EDWIN SAUER
Senior Foreman
Lansdale Tube Company
(Division of Philco)
Lansdale, Pennsylvania

Explain to the group

TO THE EDITOR:

Because Lou violated instructions and broke the safety rule, a one-day suspension is in order. The suspension would serve as a reminder for Lou that safety instructions should be obeyed. It would also show Stan's impartiality to the other employees.

Stan should explain to the group that Jim was given the lengthier suspension because he had previously received warnings—one of them written. He could also take the opportunity to emphasize the importance of heeding safety rules.

One sentence in our union contract reads: "Disciplinary measures include reprimand, suspension, and discharge." For minor incidents we normally give two or three written reprimands, followed by suspension and discharge if the offense is repeated. But a truck driver who breaks safety rules has committed a major offense and should be suspended.

—ALBERT VAN DYKE
Foreman, International Harvester
Company, Chicago

Damage makes no difference

TO THE EDITOR:

Since Stan had warned Jim verbally and in writing, he did the proper thing in giving him a three-day layoff.

Stan should issue the same warning to Lou that he had originally given Jim, and follow up with the same disciplinary action if Lou persists in driving unsafely. It should make no difference to Stan whether or not one of his men is a close friend—he must still meet his responsibilities as a supervisor. This should show the group that the disciplinary procedure is fair.

Damage to product or equipment should have no bearing whatever on the enforcement of safety rules. Only chance determines the extent of damage or injury when the rules are broken.

Our company's procedure is to warn an employee verbally several times, then warn him in writing, and finally give him a disciplinary layoff.

—E. W. SPENCER
Supervisor of Safety & Training
American Can Company
Brooklyn, N. Y.

"Three times and out"

TO THE EDITOR:

Stan should treat Jim and Lou the same way if he wants to continue as an effective manager.

He does have some leeway, however. Since Lou is a safe driver, his future accident rate will probably be nil. But Jim is not a safe driver and may justifiably be transferred to a different kind of job.

Stan made two errors which led to his predicament. First, he did not investigate why Jim was driving the way he did. By careful questioning, Stan might, for example, have discovered an emotional problem and could have referred Jim to someone qualified to help him. Second, he allowed Jim to continue to drive after several warnings. "Three times and out" should have been the understanding.

Safety programs and effective management require more than words.

—R. H. COULOMBE
Lenkurt Electric Company, Inc.
(Subsidiary of General Telephone & Electronics), San Carlos, Calif.

An ounce of prevention

TO THE EDITOR:

The basic weakness in Stan's position is his lack of decisive action before the accidents. After warning Jim, Stan should have transferred him to another department. There were sufficient grounds for this: By constantly violating safety rules, Jim endangered himself, his fellow employees, and his equipment. But Lou is a careful driver and his single violation would normally call for a reprimand only.

Stan's failure to act earlier, however, leaves him with no alternative; he must mete out the same three-day layoff to Lou. In violating safety precautions, both men caused

accidents; and, in all fairness, both must suffer the same consequences.

Stan should post the regulations in a central place, call the group together, and caution them that the safety rules must not be violated. At the same time he can tell them that the three-day layoff was given to both men because each violated safety precautions and caused an accident.

—ROBERT B. VANDERMARK
Supervisor
The Hooper-Holmes Bureau, Inc.
Morristown, New Jersey

Crack down earlier

TO THE EDITOR:

Stan should have given Lou a three-day layoff, too. Since both Jim and Lou broke a safety rule, they should receive like penalties. Safety rules are established to prevent serious bodily injury and should be enforced.

I think that this action would be considered fair by the group, and that Stan should not have to explain it unless he is approached by a grievance committee.

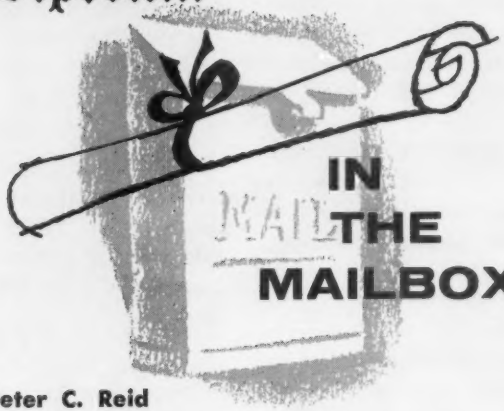
Verbal and written warnings notwithstanding, Stan should have cracked down earlier.

For a new employee, however, the infraction should be handled differently. Stan should take into consideration his unfamiliarity with the area in which the lift truck is operated.

—F. J. GOODWIN
Supervisor, Parts and Accessories
General Motors Overseas
Operations, New York

"Any particular way you'd like that word spelled?"

Diploma IN THE MAILBOX



By Peter C. Reid

Here's the story on correspondence schools.

OVER A MILLION AND A HALF people in this country are getting an education without ever setting foot in a classroom. They're studying subjects from algebra and automation to piano tuning and beekeeping—through the mail.

More new students enroll every year in private home-study courses than enter the freshman classes of all our colleges and universities—a striking indication of the major role correspondence schools are playing in the growing adult-education movement.

For the supervisor, correspondence schools provide one way of acquiring knowledge and skill, whether it's to help in getting ahead on a job, to develop a new hobby or profitable avocation, or simply for the pleasure and satisfaction of learning. But a home-study course shouldn't be undertaken lightly. Once you've signed up for a course, you're usually obligated to pay for it, even if you decide after a few lessons that it isn't what you want. So the time to make sure that a course is right for you is before you put your name on the bottom of the contract. This means that you should know just what you want to accomplish, whether the school is

competent and reliable, and exactly what the course will provide in the way of instruction and equipment.

To make a sound decision about taking a correspondence-school course, you should have a clear idea of what's involved in home study. Let's take a look at how a correspondence school works.

How they work

When you enroll in a course, the school sends you study material. Some schools use standard textbooks which they supplement with a study guide containing assignments, problems to work out, and examinations. Textbooks are included in the tuition by most of the private correpondence schools that use them, but in university correspondence courses, texts usually have to be bought separately.

Most private home-study schools do not use standard textbooks. Instead, they prepare their own instructional material in the form of a series of pamphlets. This enables them to tailor the study material specifically to the needs of the correspondence student. Besides, pamphlets are easier to revise and keep up to date than complete textbooks —an important advantage in technical courses like electronics.

In academic subjects—mathematics, English, and so on—you do your homework the same way you would in classroom school. You then mail your assignment to the school, where it is graded and returned by a qualified teacher. He will make clarifying comments on your work if he feels they're necessary. He will also answer any questions you may have about particular points in the lesson.

In courses intended to develop skills and abilities—like art, photography, drafting—you send in samples of your work as you progress. These are returned with a grade and criticism. Technical courses often include equipment on which the student can practice.

What's good about it . . .

For the busy adult, this method of learning has definite advantages over classroom instruction:

1. You can progress at your own rate—which might be faster or slower than that of a class.
2. Home-study material is specifically planned and written for adults.
3. You can choose your own hours to do the work. Even on a shift operation, there's no interference with working hours.
4. No traveling is necessary.
5. It's less expensive than classroom instruction—the average course lasting 1-2 years costs about $200.
6. Because correspondence courses are specialized, you get a concentrated dose of the subject without any extraneous material.
7. If you move, your instruction will follow you.
8. Your work will be rated ob-

jectively, since there are no other factors—extracurricular activities, appearance, personality—to influence the teacher's judgment.

. . . *and what isn't*

All these advantages—which are naturally stressed in correspondence-school advertising—make home study sound like an ideal way of learning. But to be realistic, you should also consider some points that correspondence schools *don't* stress in their advertising:

1. Learning isn't any easier in a home-study course than it is in a classroom course. Many people take correspondence courses on the strength of ads promising them an education with no effort on their part. They're usually disillusioned fast. Learning can and should be enjoyable, of course, but it also demands plenty of hard work.

2. Home-study courses are limited in what they can teach. They can't provide practical, first-hand experience with bulky, expensive equipment that the student would find in a classroom course. For example, a correspondence school teaching aeronautical engineering can't send its students airplane engines to work with.

Some subjects can be learned only partially through correspondence study. A course in salesmanship is incomplete without demonstration and practice as well as textbook theory. A course that requires elaborate laboratory experiments is difficult to teach through correspondence.

Some correspondence schools offer short courses in resident instruction to supplement their home-study courses. However, this may not always be practical for the student.

3. Correspondence schools don't have the academic standing of qualified classroom schools. This is not necessarily a reflection on the quality of instruction given in home-study courses. A diploma from a correspondence school has definite value: It shows that the student has successfully completed his course. But keep in mind that a home-study diploma may not be accepted by other educational institutions or licensing bodies.

4. Correspondence courses don't provide the stimulation of a good classroom teacher or the give-and-take discussion of a class. Some people need this kind of atmosphere to maintain their interest. Furthermore, there are many subjects—like psychology, public speaking, or writing—in which discussion is an important part of the learning process.

If, after balancing the pros and cons, you've decided that a home-study course is right for you, your next step is to pick a school. Since there are over 600 schools offering home-study courses, it's no easy task. But you can narrow the field considerably by deciding exactly what you want to accomplish. You

may have one of the following goals.

To get a college degree

As management becomes increasingly complex, a college education is more and more necessary for promotion to higher positions. The supervisor who hasn't completed college may find that getting his degree is a worth-while investment indeed.

There is no way of earning a college degree through home study alone, and any correspondence school that makes such a promise is a commercial diploma mill rather than a bona fide educational institution. But most colleges and universities will permit one quarter of the necessary degree credit to be earned from correspondence, and some will permit a half. Therefore, a man who has had two years of college could qualify for his diploma by home study. This credit generally must be earned through correspondence courses of accredited resident colleges and universities having home-study departments. Fifty-two of these schools—most of them state colleges and universities—are members of the National University Extension Association, which prepares *A Guide to Correspondence Study* listing the courses. The guide can be obtained for 25 cents from National University Extension Association,

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Check Up Before You Sign Up

Interested in a correspondence course? Don't sign a contract until you've got satisfactory answers to these questions:

1. Does the school have competent teachers?
2. Does it offer up-to-date, educationally sound courses?
3. Does it admit only qualified students?
4. Does it have a good record of student success and satisfaction?
5. Are its tuition charges reasonable?
6. Is its advertising truthful?
7. What will the course cover?
8. What background does it require?
9. What kind of work will you be required to submit, and how will it be graded and criticized?
10. What instructional materials will you receive, and are they included in the price of the course?
11. What will the course cost, and what payment plans are available?

University of Minnesota, Minneapolis 14, Minnesota.

A wide variety of academic and professional courses are available from NUEA schools. Fees range from $20 to $50 for the equivalent of a one-semester course.

You can use the degree credit earned from these courses in two ways. If you already have a substantial amount of degree credit earned in a classroom school, you may be able to complete your degree requirements through correspondence courses. Or, if you have had no college at all, you may take correspondence courses to earn some credit, and earn the rest through evening or daytime attendance at college classes. Be sure though, to find out if the college you plan to attend will accept your correspondence credits toward a degree.

Most NUEA members also offer high-school courses. Credits earned from these courses are accepted for admission to most universities and colleges.

To help you do your job better

You may want to take a correspondence course for its practical value rather than for academic credit. You'll find many such courses in the catalogues of NUEA member schools, but the more specialized vocational courses are usually given by private home-study schools.

Your choice of subject would depend, of course, on the particular kind of knowledge you need on your job or for promotion to a higher level. You may feel you need more strength in mathematics, for example. Courses are available in report writing if you have a weakness in that department. Or you may want a course that will help you keep up with rapid technological development in your field.

A number of schools offer courses dealing with management skills. Some of them concern problems you may have on your hands right now, like accident prevention or office filing procedures. Other courses deal with higher-management topics like personnel administration and profit planning. These can be useful in broadening your horizons and giving you the basic know-how you'll need to move up the management ladder.

Your company may be among those that provide a tuition-payment plan for employees taking job-connected courses. Some companies will pay part or all of the cost of a correspondence course if the employee gets a satisfactory grade.

To make leisure more enjoyable

Correspondence courses don't have to be practical. They can help make your leisure time more satisfying by teaching you skills in arts and crafts and other recreational activities. Some of the courses offered by reliable schools are: art instruction, metalcraft and jewelry mak-

WHAT YOU CAN LEARN THROUGH THE MAIL

Although you can learn such unusual arts as blacksmithing and fingerprinting through correspondence courses, you will also find a wide variety of more generally useful subjects. Here's a sampling:

Manufacturing Methods
Mathematics (Algebra, Geometry, Trigonometry, Statistics, etc.)
Family Finance
Business Correspondence
Literature (English, American, Greek, Drama, Poetry, etc.)
Electronic Computers
Landscaping
Office Management
Science (Astronomy, Biology, Botany, Chemistry, Mineralogy, Physics, etc.)
Applied Imagination
Languages
Municipal Affairs
Engineering (Aeronautical, Chemical, Industrial, Electrical, etc.)
Data Processing
Industrial Sociology
Plastics
History (Ancient, American, European, Russian, etc.)
Industrial Instrumentation
Parties and Politics
Control-Systems Theory

ing, plastics fabrication, woodworking, creative writing, home building and planning, landscaping, leather craft, music, upholstery, and photography. Most of these courses are intended for career purposes, but they are often taken by people interested in an avocation.

When you're ready to pick a school, take your time. Resist the temptation to sign up with the school that has the most persuasive advertising without making any further investigation.

How to look behind the ads

How do you look behind the ads to find out how good a school really is? Your best bet is to learn if the school is accredited by the National Home Study Council. The NHSC is a voluntary organization of private home-study schools which was founded in 1926 in order to promote sound educational standards and ethical business practices in the home-study field. To qualify for NHSC accreditation, a school must meet these specified standards:

1. It has a competent faculty.
2. It offers educationally sound and up-to-date courses.
3. It admits only qualified students.
4. It provides satisfactory educational services.
5. It has a good record of student success and satisfaction.

6. Its tuition charges are reasonable.

7. Its advertising is truthful.

8. It is financially able to deliver a high quality of educational service.

A list of the 53 schools now accredited by NHSC can be obtained by writing to the National Home Study Council, 1420 New York Avenue, N.W., Washington 5, D. C.

If you find that a school in which you're interested is not on the NHSC accreditation list, don't assume that it isn't qualified. The NHSC program is voluntary, and there are excellent schools which haven't applied for accreditation. Also, there are recently founded schools which may be qualified but haven't met the NHSC requirement of being at least five years old. The NHSC, in fact, is willing to answer inquiries about schools that are not on its accredited list.

Checking further

There are other ways for you to check the qualifications of a school that's not on the NHSC list:

► Ask the school to supply you with the names and addresses of graduates in your own area, so you can get their opinion.

► Study the school's official catalogue carefully. Does it list the faculty, with the qualifications of each teacher?

► If possible, visit the school personally.

► Check with the Better Business Bureau and the Chamber of Commerce in the school's area—they may have information on its reputation.

► Ask your local high-school principal if he knows anything about the school.

► Write to the Veterans Administration, Washington, D. C. and ask them if the school has been approved for veteran training.

► Write to the Federal Trade Commission, also in Washington, to find out if the school has been in trouble with the government because of fraudulent advertising or other unethical practices.

What to ask

When you send for a school's promotional material, a representative may call on you. He should give you factual, straightforward answers to these questions:

1. Exactly what will the course cover?

2. What background does the course require?

3. What kind of work will you be required to submit, and how will it be graded and criticized? (You may find that some "courses" simply involve the reading and study of books that you can buy yourself or even borrow from a public library.)

4. What instructional materials will you receive, and are they included in the price of the course?

5. What are the qualifications of the school's instructors?

6. What will the course cost, and what payment plans are available?

When to be skeptical

Most representatives of reputable schools will let you make your decision without pressure. But there are unscrupulous schools with fast-talking salesmen who will use dubious tactics to pressure you into making up your mind fast. Be wary if you hear, "You better sign now—the price of the course is going up next week," or "This is your last opportunity to sign up—I'm going to leave this area and I don't know when I'll be back again."

If the agent assures you that anybody can master the course, skepticism is called for. Reputable schools screen students and accept only those they feel are qualified.

Don't accept an agent's statement that his school has been recommended by the State Board of Education, the U.S. Office of Education, or a Better Business Bureau. None of these organizations endorse specific schools. Also, don't be too impressed by the fact that a school has been licensed by a State Board of Education. All this means is that the school is legally authorized to do business in that state, *not* that it meets specific standards of quality.

Some agents will offer "scholarships" in the form of reduced payments. In most cases, the regular

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WHERE TO GET THE FACTS

Here's how you can get the answers to questions you have about a specific correspondence school:

1. *Find out if the school is accredited* by the National Home Study Council, 1420 New York Avenue, N.W., Washington 5, D. C.
2. *Get the opinions of graduates* in your area.
3. *Study the school's catalogue* carefully.
4. If possible, *visit the school* personally.
5. *Check with the Better Business Bureau* and the Chamber of Commerce in the school's area.
6. *Ask your local high-school principal* if he knows anything about the school.
7. *Write to the Veterans Administration,* Washington, D. C., and ask them if the school has been approved for veteran training.
8. *Write to the Federal Trade Commission,* also in Washington, to find out if the school has been in trouble with the government because of fraudulent advertising or other unethical practices.

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tuition has been raised to take care of the reduction.

Be suspicious, too, of the agent who guarantees a high-paying job after you complete the course, makes his appeal to your emotions rather than your common sense, or promises a college degree without any classroom training.

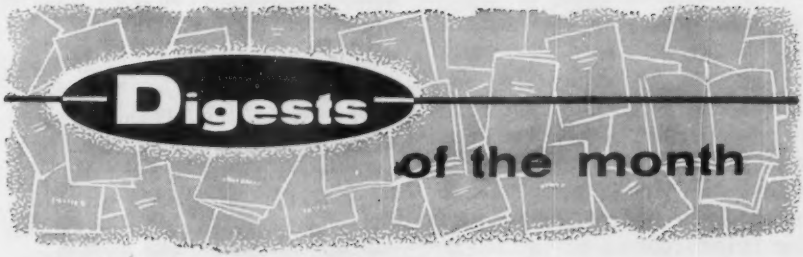
If, after carefully investigating a school, you decide to sign up, make sure you know exactly what's in the contract or application (if you sign an application, it usually becomes a contract when accepted by the school). No matter what promises the agent makes, the school is bound only by the terms of the contract. Pay particular attention to the cancellation arrangement, if any. Many schools require full payment even if you drop the course. Others will permit cancellation upon payment of a fee.

A two-way process

The suggestions given in these pages should help you select a qualified correspondence school that's right for your needs. But remember that education is a two-way process: What you get out of a home-study course depends largely on what you put into it. You'll need a healthy application of perseverance and self-discipline to complete your course successfully. If you've chosen the course with care, it will be worth it —not only for the practical benefits, but for the satisfying feeling of personal accomplishment you'll have. ♦

"Oh, we smuggled it in a piece at a time."

—from *Thimk*, ed. by Charles Preston.
A Gold Medal book, Fawcett Publications, Inc., 25¢.



Who's the Man to Promote?

IT'S NOT ALWAYS EASY to pick the right man for promotion. And, in some cases, the matter is far from finished once the man is selected. For example, a company may bypass an unqualified senior employee in favor of a more qualified junior man. But when it does, it must often be prepared to defend its choice before the union and eventually, perhaps, the arbitrator. Thus, the company must have as accurate a picture as possible of the candidates.

How does management get this picture? There are many ways: tests, records, forms, and—most important—the valuable information that only the candidate's supervisor can supply. Here are some of the most commonly used tools for picking the right man.

Testing

Written tests that are related to the requirements of the job are valuable aids to evaluating employees. A man's ability on certain jobs can also be determined by tests of actual performance. For example, a machinist candidate may be asked to demonstrate his ability to use a lathe, or an electrician candidate may be asked to read a wiring diagram and apply what he has read to an actual problem.

On-the-job conduct

Cautions and warnings. A man's job performance includes his conduct on the job. An employee who, though otherwise qualified, constantly gets into trouble or violates company rules should not be promoted. Thus, in evaluating a candidate's over-all ability, management considers the number and seriousness of "caution notices" against him. Usually, only written notices are considered, and these, therefore, should be accurate and complete.

Commendations. In contrast to warnings, commendations help tip the scales in favor of an employee. Commendations that bear directly on his skill, knowledge, and output are especially helpful in an evaluation of his ability.

Performance records

Experience. A candidate's actual work experience is one of the most important criteria in his evaluation.

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Management often checks an employee's entire work record. What goes into that record should be impartial and correct.

Production records. A tangible basis of measuring an employee's ability to do a job is his output or production record. It is especially important for an employee who is in line for a higher job requiring greater skill, responsibility, and output.

Dependability

Absence and tardiness records. An employee's dependability is an important factor in his chances for promotion. A company gets little value from an employee who is tops in a particular job but can't be relied upon to be there to carry it out.

Merit ratings

A supervisor's *merit ratings* are given considerable weight by management—and by most arbitrators. The most valuable aspect of these ratings is the supervisor's straightforward and candid opinion of the employee's capabilities and performance.

Matching the right man with the right position is part of management's job. Helping the process—with complete, accurate information and mature judgment—is part of the supervisor's job.

• *Dale D. McConkey*
PERSONNEL
May/June, 1960

It's the Little Things That Count

TO INCREASE their workers' output, modern foremen have many new and exciting tools at their disposal: the science of motivation, psychology, and incentive programs. But some simple, old-fashioned ways still work. Here's one method of increasing productivity, reported at an American Management Association personnel conference:

Work in the wire-stamping department of one company was boring and repetitive—women stamped numbers on wires all day. The foreman knew he wasn't getting the most out of his department, but he didn't know what to do about it. The women's pay was adequate, working conditions were good, coffee and rest breaks were ample, and there was no obvious loafing—they just didn't seem to work too hard.

Finally, the foreman devised a chart to show daily production figures. The chart had peaks and valleys denoting averages. Whenever production went above the peak, a balloon was floated over the "mountain." Within weeks, production climbed almost 50 per cent. There was no other incentive. Apparently, the women just liked to see the balloon go up.

Man in the Machine Age

MAN IN THE MACHINE AGE?" "Never give a man a job a machine can do!" "If you *have* to use a man, make sure he'll do the job the same way the machine would, and as well!" "Man? He's unreliable! Never use him except as a last resort!"

Do these ideas sound strange? Unfortunately, some people believe that any machine can perform faster, better, and cheaper than any human being can. But how accurate is this belief? Can the machine outperform the man on every level?

The answer, of course, is no. True, there are areas where a machine is more efficient than a man, can turn out more units per hour than he can, or can do it with greater precision. But in some important human skills, man far excels any machine.

Seeing patterns

Outstanding among these skills is that of pattern recognition. A man can look at an aerial military photograph, for example, and pick out most of the objects of military interest. No machine yet invented can do much better than tell the difference between horizontal and vertical stripes. And we have no system, so far, that approaches man's ability to interpret complex, patterned displays.

Long-term memory

Another outstanding human skill is long-term memory. The size of any adult vocabulary is far greater than the size of the vocabulary we can program into a computer. The only device that beats human long-term memory is written records. Human *short*-term memory, on the other hand, is not too good; machines are much better.

A more important element of human long-term memory is its amazing ease of access. To look a word up in a dictionary, you can use only one principle of classification: its spelling. But to find the word in your memory, you can use any one of many different classifications: the word's spelling, its sound, other words that rhyme with it or look like it, and, above all, its meaning. The human being's ability to "cross-index" in this manner is far superior to any machine's ability to do the same.

Reliability

The next outstanding human attribute is man's extraordinary reliability. This does not mean that his error rate is lower than a machine's. But man, unlike all but the most complicated machines, can recognize that he has made an error when its consequences become apparent, or even before, and then he can correct it. Furthermore, well-trained men rarely repeat the same kind of mistake. They don't malfunction in the way a piece of electronic apparatus with a tube burned out malfunctions. Consequently, man, if given a certain margin for error and the opportunity to correct his mistakes, is likely to be more reliable than any really complex machine.

. . . and wisdom

Another human skill goes under several names: decision making, or the

ability to profit from experience, or wisdom. For example, man, with amazing accuracy, can translate uncertainty into probability: He can take a set of facts about some event which is neither impossible nor certain, and, using his experience, translate this unsystematic set of facts into an extraordinarily accurate judgment about the likelihood of the event.

Man in the machine age? He's here to stay.

• *Ward Edwards*
(Engineering Psychology Group, Willow Run Laboratories, University of Michigan)
from a speech before the Engineering Society of Detroit (May 18, 1960)

Can You Prove You Were Born?

NEED A PASSPORT? Claiming an inheritance? Getting ready to collect on your Social Security? Then you may need your birth certificate, proof of where and when you were born.

If you don't have a copy of it, here's what you should do to get it, as suggested by Florence Kaye in *Weekday:*

1. Write to the Registrar of Vital Statistics, State Department of Health.
2. Ask for information about where you can obtain a copy of your birth certificate and how much it will cost you.
3. Include in your letter your complete name, the date of birth, and the place.

If you receive a reply that all you need do is send in a small fee (usually one or two dollars) for a certified copy, then your birth was recorded and is on file. Get your copy, and keep it in a safe place.

If, however, the reply states that there is no birth certificate on file for you, there are other ways to prove you're alive. You may be able to record your birth by delayed registration. Since these laws vary from state to state, find out from your Department of Health what the requirements in your area are.

Proof of birth date and place can often be found in old records. Here are some documents that may do the trick for you:

- Certified copies of church baptismal records or of family-Bible notations.
- Affidavits from the physician who attended your birth or from older members of the family who remember it.
- Hospital records, or certified copies of village or city records.
- Certified copies of any health records that list birth date and place and your parents.
- Old school records containing birth information.
- Certified copies of old insurance records.
- Armed-service records.
- A report of the Census Bureau records (Write to the Bureau of the Census, Washington, D. C.)
- Naturalization or immigration papers or passports.

Training: What's the Problem?

JIM RIVERA," said Bill Veeck, speaking of the weak-hitting Chicago outfielder, "is the best man in baseball between second and third base. The trouble is getting him to first."

Veeck put his finger on a training problem that plagues every supervisor: not just conducting general training, but strengthening specific weak points.

Training problems will occur, and, of course, there's no one way to solve all of them. But most problems you're likely to encounter break down into several broad types. If an employee seems to be having trouble, the first question you must answer is, "What approach shall I use in this particular case?"

This implies that you must be able to judge this employee's attitude, his talents, and his level of intelligence. Then, once you know the man you're training, you can tailor your instruction method to his needs and help him overcome his learning troubles.

What are some of the problems you might encounter? And how can you solve them? Take a look at these examples.

The slow learner

• Bill Jones doesn't catch on quickly. You judge him to be a slow learner. But he's willing, and once he gets the idea, he's a competent workman. Your job is to instruct him on how to carry out an unfamiliar assignment. What do you do?

Why not try this? Adjust your instruction pace to Bill's learning speed. Summarize after you have explained each part of the operation. Review frequently. Ask questions to make sure he understands. And encourage questions from him: They'll help you discover if your instructions are hitting the mark.

Can't see the whole job

• You're giving Ed Williams directions for a new job. But he doesn't see how the several points you're explaining relate to each other. How do you give him this understanding?

Why not try this? Some people learn best by listening. Others must be able to visualize a problem before they understand it. If, for instance, Ed is a "visual learner," perhaps a rough sketch of the entire operation will show him clearly the relationship of the several steps involved.

Bright—but bored

• Phil Jackson is highly intelligent —smarter than the other members of his group. He loses interest when he's held down to their learning rate. What's the solution?

Why not try this? When you're giving Phil individual instructions, speed them up. If he's a member of a group you're training, give him enough extra problems to keep the job a challenge.

Won't do it your way

• Joe Elliot is sure his method of doing things is best. He makes up his mind in advance, and insists on working the job his way. What do you do?

Why not try this? List the facts of the case—his way and your way. Show him the advantages and disadvantages

of both methods. If your way is best, the facts may help you win Joe over. If not, you have learned a better way.

Of course, you could say, "Do it this way because I say so." But if you do, you're depending on authority, not leadership. Joe may still think he's right and go about the job grudgingly. If the job goes wrong—even if it is Joe's fault—he may blame your instructions.

The key to successful coaching is to hold up to each employee a mirror in which he can see himself—his strengths and his weaknesses. Then encourage him—through your interest in his progress and your willingness to help—to get the best out of himself.

• THE PERSONNEL MANAGER
(The Pennsylvania Railroad Company)
July, 1960

Home-Safety Management: A 10-Point Program

IN ONE OUT OF EVERY FIVE suburban homes, according to a recent study by the American Mutual Liability Insurance Company, some member of the family has suffered a disabling injury during the past year.

This statement was made by Arthur S. Johnson, vice-president of the company, at the recent convention of the Greater New York Safety Council. It appears inevitable, he continued, that our present rate of 27,000 accidental deaths in the home will reach 48,000 by 1970, and the 4 million home-accident injuries will climb to nearly 7 million.

The only way to control this serious situation, he said, is for families to organize their own defenses against accidents on sound management principles. Over the past 25 years, industry has succeeded in cutting its accident-frequency rate by almost 60 per cent; similar results can be achieved at home.

Mr. Johnson suggested the following ten-point program:

1. Periodic checks of the house and grounds to spot and correct accident hazards in the making.

2. Annual inspection of heating equipment to eliminate fire hazards.

3. A thorough housecleaning at least twice a year, including attic and cellar, to get rid of all unwanted items.

4. Regular checking of all household appliances—with professional repairs for complicated appliances.

5. Training children in safe living habits.

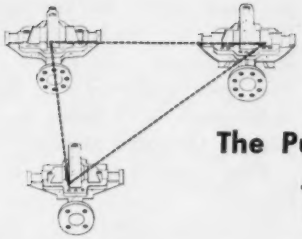
6. Proper play supervision for children.

7. Special precautions to prevent injury to older people.

8. Safe storage of medicines, household cleaners and detergents, and pest-control preparations, in places inaccessible to children.

9. Family training in first aid.

10. A thorough study of every accident that occurs in the home, to identify the cause and prevent its recurrence.



The Push Toward Standardization

MORE AND MORE PLANTS are beginning to benefit from the application of an important concept: machine-tool standardization. Machine-tool manufacturers are about to establish some identical dimensions for their products so that parts from different-make machine tools can be interchanged.

Most U.S. toolmakers have fought hard against such standardization. They don't like the idea, for example, of having another manufacturer's cutting head strapped to their milling machine, for fear they'll be blamed if the head fails. They are afraid of being limited in design. And they don't relish the idea of losing new-equipment sales to used equipment that is more readily alterable.

But the toolmaker has evidently met his match in his best customer: the auto maker. Chrysler, Ford, and GM have demanded standardization in their tools for some time. When they've got what they wanted, the results have been significant: Some auto plants tooled up for the 1960 compact-car engines for as little as half the cost, and in half the time, that a new machine line would require.

One of the first areas to feel the effect of large-scale standardization was that of specialized, multiple-tool transfer machines. These often grow to be huge monsters with over 50 work stations; many cost more than a million dollars. They are designed for true mass production—they make one part only, but they make it by the millions at minimum cost. The trouble is that a major design change can turn such tools to scrap overnight, while designing and building new ones to make the new parts can eat up more than a year's time. With little more than token standardization, the auto makers minimized the waste from production equipment made obsolete by design change.

Other industries

Other high-production industries—appliance, outboard-motor, and farm-equipment makers—stand to gain, too. Eventually, even metalworking shops using general-purpose tools may benefit from interchangeable parts on lathes, drill presses, grinders, and milling machines.

How much standardization?

One object of standardization is to make it easier—or, in most cases, just to make it possible—to interchange jigs and fixtures, so that jobs can be

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switched easily from one machine to another. Another object is to make it less expensive to rework the equipment of production lines where several cutting, milling, or drilling operations are tied together in a single expensive machine.

Blazing the trail

Until a few years ago, the only standardization on most machine tools was in their motors (supplied in standard size by electric-motor manufacturers) and in the use of inches as a basic dimension. Beyond that, it was a hodgepodge. Then the auto industry—recognizing the need for faster, more flexible, and less costly changeovers—blazed the trail. After years of consultation with several machine-tool users (including the Defense Department) and with many machine-tool builders, the auto and truck makers were able to achieve some standardization of production tools. Such standardization has confined itself to problems like working heights of bases, mounting-pattern holes, etc., which affect interchangeability but not design features—the selling points of individual toolmakers.

Buoyed by their success, the auto and truck makers late last year carried the battle for standardization into the area of general tools. In this fight they have been joined by such companies as Motorola, A. O. Smith, Bell & Howell, and Outboard Marine.

Four types of tools are under consideration: drilling, grinding, milling, and turning machines. The users' group is proposing specific areas for standardization with each machine, such as tool-attaching surfaces, fixture-attaching surfaces, work height, bench size, and standard nomenclature.

Final proposals for the areas of standardization were presented by the users to a group of machine-tool builders and to representatives of the Defense Department and the Air Force in Detroit early this spring. The proposals have now been circulated to the entire Commerce Department list of some 300 machine-tool builders in the U.S. and to members of the National Machine Tool Builders' Association. Adoption of the proposals would carry standardization into almost every area of industry.

• BUSINESS WEEK
No. 1601

Here's What the Arbitrator Said

(See "Time Limit on a Grievance," page 27)

The company won. Reviewing all the conversations, the arbitrator said that the grievant had not complied with the contract requirements for formal grievance processing. The complaints were of a "tentative, inquiring, and general nature," not the "specific kind of complaint" the contract called for.

NOTE: This award does not indicate how other arbitrators might rule in an apparently similar case. Arbitrators do not follow precedents. Each decision is based on the particular history, contract testimony, and other facts involved.

Too Old at 40?

WHEN DOES an American worker become "too old" to get a new job? The answer is: at a startlingly early age—40, or sometimes even younger.

James Haddon is 46. For 15 years he worked as a sales engineer, reaching a salary of $18,000 a year. He lost his job some months ago when his company, as the result of a merger, moved to a new location and he found himself unable to follow. He didn't worry at first. He was able, experienced, and highly recommended by his former employer. He expected a minimum of trouble in finding new work. Until:

"We wish you had come to us 14 years ago, but . . ." The job, with an oil firm, went to a younger man.

"Our company does not hire anyone over 40 . . ." A salesman's job.

Haddon and others like him are the victims of a senseless dual image. When they are employed, they are respected and valued members of the office force, the production line, the executive staff, or the sales team. When they're looking for work, they suddenly become too old to hire. Even if they are hired, they are sometimes placed in jobs that neither demand their best abilities nor take full advantage of their experience. This prevailing practice of wasting valuable abilities because of preconceived notions about age and work is one that endangers our full economic growth.

The growing need

We anticipate that by 1970, the American economy will be turning out $750 billion worth of goods and services—50 per cent more than today. The number of workers needed to man an economy of that size is estimated at 87 million—13.5 million more than are in today's labor force. Forecasts assure us of at least that number. But an examination of the expected increases of workers in different age groups indicates that the traditional composition of the labor force will be sharply altered in the coming decade. There will be 6.4 million more workers under 25; 5.5 million more workers over 45; 1.8 million more between 25 and 35; and an actual *decline* in the number of workers 35 to 44.

Thus it is clear that the chief source of the labor supply in coming years will be the young, inexperienced workers just out of school and the experienced older workers industry may now be turning away. Companies that persist in discriminatory policies of any kind are going to find themselves squeezed out as the contest for manpower increases.

Output and absenteeism

Let us examine the prejudices against hiring and properly using the capabilities of older people. One prevailing myth is that older workers produce less than younger ones, that they cannot keep up the pace of their "prime" years. It is thought, too, that older workers are absent much more than their younger colleagues, that they are more prone to serious illnesses and accidents.

Two recent studies—one a Department of Labor analysis of the job performance of production workers in 26

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plants, and the other made up of office workers in five Government agencies and 21 private companies *—disclosed that the difference in output between the *individuals within* a selected age group were larger than the differences between age *groups* themselves.

It was significant that, on the average, a large proportion of the older workers exceeded the performance of the younger ones. The older workers—especially those between the ages of 55 and 64—were also found to be more consistent in their work performances than the younger workers.

Thus, the generalization that younger workers perform better than older ones is hokum. And so is the one stating that the older workers are absent more. The reverse is true: All of our studies show that absenteeism is lower among older workers than among young workers. The older man is likely to be a family man, a homeowner with community responsibilities that make his presence on the job important to him. He is more settled than his younger colleague; he has already put down his roots and is seeking permanent employment and steady work.

Set in their ways?

Another charge is that older people are set in their ways and unable to adjust to the rapidly changing conditions of our modern economy. It is argued that an older employee is going to "do things his way," and will not take full advantage of efficient modern techniques.

This claim of inflexibility just isn't true. Psychologists have concluded that, in the working world, a mature person learns differently from—but as well as—a younger one. The older worker's experience enables him to select, to value, and to conserve, and his background enables him to grasp principles. A sampling of 160,000 job seekers showed that the 40-plus worker has far better occupational qualifications than his junior. Twice as many older people were classified as skilled workers.

The popular conception of missile-age work as a "young-people-only" world is based on the assumption that, since these industries have expanded only in the past few years, skills acquired previously are obsolete. The fact of the matter is that skills are interrelated; a man who can do one job well finds it easier to adapt his skill to a new set of challenges and circumstances. The growing electronics industry in New England, for example, is using the skills of a stable workforce previously employed in other industries.

Thus, an older worker is probably every bit as flexible as a younger one. His past training may even give him a head start.

Our studies have made us realize that generalizations applied to older workers are simply not true. Employment policies must be based, not on any group myth, but on the worth of the individual. The nation must not be deprived of an invaluable resource—the proven ability of its older workers—at a time when we are in a global economic contest.

• *James P. Mitchell*
THE NEW YORK TIMES MAGAZINE
June 19, 1960

* See *Do Older Office Workers Measure Up?* SM, April, 1960, page 32.

THE CENSUS: BIG ANSWERS TO LITTLE QUESTIONS

AND SATAN STOOD UP against Israel and provoked David to number Israel. And David said to Joab and to the rulers of the people, 'Go number Israel and bring the number of them to me that I may know it.' "

Thus in the twenty-first chapter of Chronicles begins the story of one of the first recorded national censuses, a Satan-inspired project that brought a severe plague on the Israelites. Even today, in modern America, there are people who quote Chronicles to the census taker and refuse to cooperate in the devilish business of numbering our nation. But for the most part—though census takers are still at times greeted by irate housewives, bitten by dogs, and chased by turkeys—opposition to the census idea has pretty well simmered down.

From freezers to education

This year, for the first time, the U.S. Bureau of the Census collected additional information, from 25 per cent of the population, about housing facilities, work activities, education, income, and method of transportation to and from work. Another 20 per cent of the population were asked to enumerate such items as bedrooms and automobiles, and 5 per cent were asked about television, radio, washing machines, dryers, food freezers, and air conditioning.

Minimizing errors

The current census operation used a staff of more than 150,000 enumerators to count an estimated 180 million people. The enumerators were helped in difficult cases by a crew leader, who also spot checked their work. The census takers were supplied with maps of their territories, and they received special training to help them reduce the possibility of error.

But errors do creep in, despite precautions. People who maintain two homes, for example, are sometimes counted twice. Parents occasionally forget that babies are people, too, and belong in the census. People who are rarely at home, transients, and floaters are also sometimes missed in the count. This year, however, elaborate measures were taken to find such people. On

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March 31 (called *T-night*—for transients), the Census Bureau placed tables in hotels, airline terminals, and bus and train stations in an attempt to record all travelers away from home. Ten days later (*M-night*—for missions), the counters covered missions, flophouses, and similar quarters of people who have no permanent home address.

Another source of error is the incorrect reporting of housing facilities. The census attempts to minimize this sort of error by defining very exactly what it means by specific facilities. Even an obvious one like the kitchen sink is carefully defined. For example, "a sink located in a hall, pantry, enclosed porch, or room adjacent to the kitchen, if used in the washing of dishes or cooking utensils, is considered a kitchen sink. However, a sink located on an open porch, or a washbowl, basin, or lavatory located in a bathroom or bedroom is *not* a kitchen sink."

The number of people refusing to cooperate in the census has been very small. A more difficult problem is that of securing accurate response. Questions about age and income may often be answered slightly off the mark. After the passage of the Social Security Act, for example, many people suddenly became 65 or older.

The Bureau of the Census is constantly searching for ways to reduce errors of undercounting, overcounting, and incorrect reporting, plus errors that result from the sampling techniques. The 1960 census has a built-in evaluation-and-research program which is trying to measure both the variance and the bias of statistics of the census programs. One of the devices used will be a re-enumeration survey. Interviewing, coding, and processing errors will also be examined for their effect on the accuracy of census data. A statistical-quality program was designed to check the work done in the field as it was completed.

Even definitions that seem clear may not mean the same thing today that they did a decade ago. Take an example included in the Census of Retail Business, which reports data for grocery stores. Comparing the sales of grocery stores in 1950 and 1960 is like comparing two different universes, for the growth of the supermarket has radically changed the grocery business. The changing nature of the drug store and the entrance of the discount store into the department-store business indicate how other terms have changed in meaning. Careless use of statistics can be misleading.

A wealth of information

Charting the growth of the United States is an extremely complex undertaking. Through careful planning and efficient execution of its task, the Census Bureau continues to produce a wealth of information. There is no more valuable tool for managers who wish to gain some understanding of the changing nature of the country than the decennial report from the U.S. Bureau of the Census.

• *Irving Roshwalb*
CHALLENGE
July, 1960

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Supervisory Management

Watch for These Articles in Future Issues:

SCHEDULING FOR SMOOTH PRODUCTION

How to coordinate the three essential elements of production: men, materials, and machines.

DELEGATION: LET GEORGE DO IT

"George" can do many tough jobs for you—if you assign and supervise those jobs properly.

WHY DON'T THEY GIVE US MORE AUTHORITY?

Feeling hamstrung? One way for a supervisor to get more leeway in doing his job is to make more use of the authority he has already. It may be considerably more than he supposes.

AMA